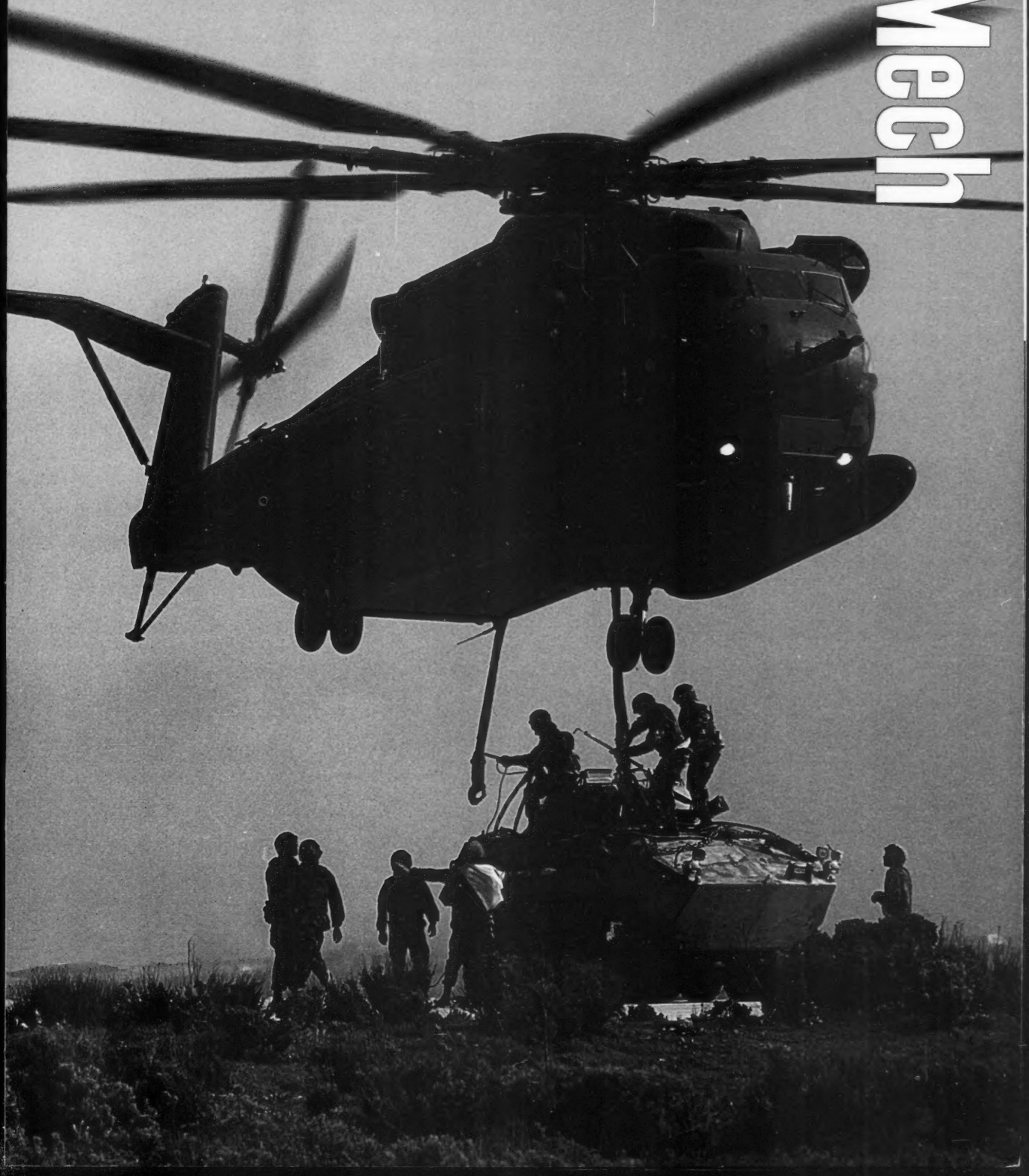
November-December 1995

approach Mech



Danish Pizza Delivery

by Ltjg. William E. Buckley

First they don't know where they're supposed to take the commodore, then they find out there's no place to land, and then they have to come pick him up. **pg. 12**

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by Lt. Jay Lamoureux

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COLD-START FLY-OFF

by Lt. F.E. Reding

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On the Cover:
A CH-53E of HMH-466 works with the crew of an LAV.
(*Photo by Rick Mullen*)

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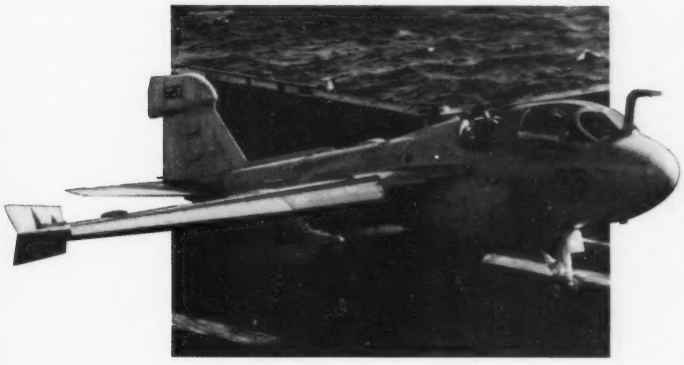

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Terminate, Schmerminate!

You're Dead! A Kill's a Kill!

by Capt. B.G. Stocker, USMC

Imagine yourself fighting a 2 v 2 dissimilar engagement with the local adversary squadron, a simple sweep v sweep with permanent kill removal and standard training rules. Post-merge, the fight degrades into separate l v ls. You battle your opponent to the soft deck, call, "Terminate over the choppers," and disengage toward your CAP. Sixty seconds later, as you are approaching your CAP point, you are jumped and killed by your opponent's wingman. Has he violated training rules?

This may seem like a simple question (the answer is no, by the way), but, the phrases, "Knock it off!," and "Terminate!" seem to mean different things to different people. As F-5 adversary pilots, we fly DACT with just about every aircraft community from every service branch, including fixed- and rotary-wing. Although our training rules and terminology are supposed to be standardized, in practice they are not. What's the big deal? Flight safety!

If half the flight believes that you have knocked off the engagement, and the other half thinks the fight is still on, the stage is set for a mishap. As adversaries, we see these simple, straight-forward terms routinely confused. Each community seems to have their own interpretation. We need to sing from the same sheet of music before it costs us an aircraft or worse.

According to the *Topgun Journal*, the Navy-Marine Corps authority on such matters, "terminate" is a training term used to cease a local engagement without knocking off the overall exercise. "Knock it off" means to cease the intercept-engagement in progress. All players must acknowledge.

To further clarify, if the desired outcome of a call is to stop the overall engagement, then "knock it off" is the appropriate term. If, as in the above scenario, the intent is to stop one part of the overall engagement while allowing DACT to continue, "Terminate" is the call of choice. It follows that during l v l DACT, "knock it off " was the only appropriate term to stop the engagement.

We have strayed from the proper use of these terms out of fear of using the big "knock it off" phrase during a major exercise, thus stopping the exercise (causing enormous personal embarrassment).

GCI contributes to the confusion because controllers are not required to, and should not, acknowledge or repeat terminate calls unless acting as radio relay between aircraft. Only "knock it off" calls stop the entire engagement and require acknowledgement by all players, including GCI.

Let's eliminate this hazard by reviewing our standardization, thinking about what we are trying to convey over the radio, and being clear in our flight briefs. ◄

Capt. Stocker flies with VMFT-401.

"Knock it off!," and "Terminate!" seem to mean different things to different people.

Tool Time

by Lt. Jon Brady

The helicopter had been washed, and then pulled into the hangar to let the Marines complete their DLQs. They left at 1830, right on time. We hurriedly traversed the helo onto the deck, unfolded the blades and pylon, and completed the preflight.

But our engine start was delayed because of a missing tool.

The HAC and I were sitting in the cockpit, running through our checklists, when I remembered I had seen a young airman take a tool from a locked toolbox while I was looking through the ADB. I told the HAC that I was going to question him about it. When I got to the shop, the airman was looking for the missing tool.

"He wouldn't be helping to look for a lost tool if he knew where it was," I told myself, so I hopped back in the helo. We continued with the checklist, and the mechs continued the search.

"Look what I found when I got in," the HAC said, holding two tools. Unfortunately, neither was the one we were looking for. This was turning into a real banner day.

The FOD inspection had been completed on the helo, so we continued with our systems checks. A few minutes after starting the APU, the APU fire light illuminated. With no secondaries, we secured the power unit, assuming that it was directly related to the earlier aircraft wash. We were right, and while the problem was being fixed, I noticed the chief and the LPO discussing something with the young airman. I decided to find out what was happening.

Sure enough, the tool had been lent to one of the blackshoes. The air detachment's LPO reclaimed the tool in a void on the ship, where the borrower had left it when he heard the dinner whistle.

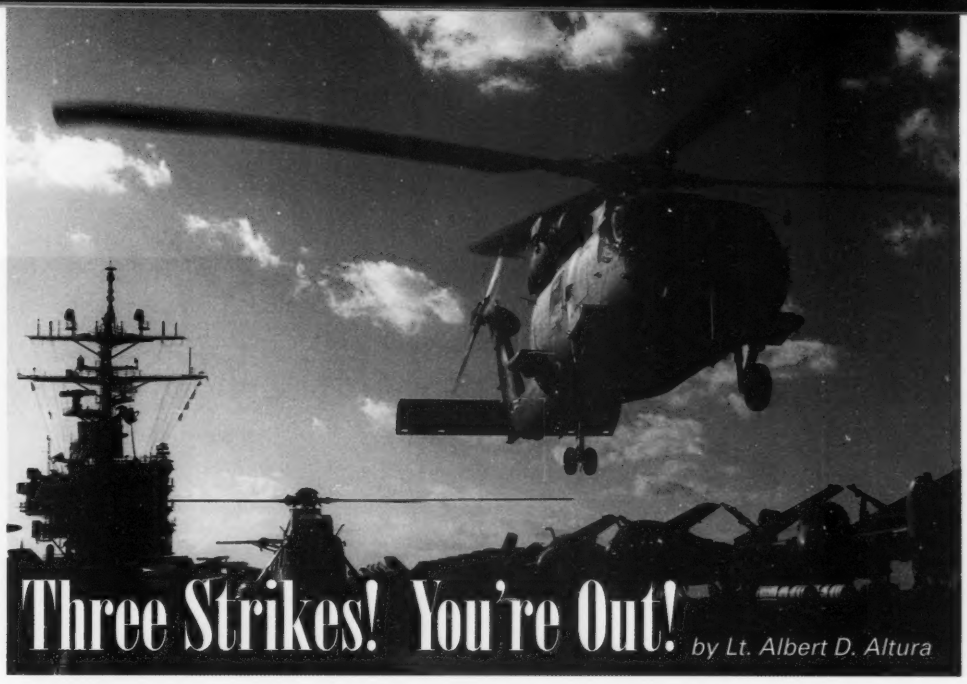
With the tool located, we were free to continue with our launch, an hour-and-a-half late. We had some problems with the audio-converter processor, and it had to be replaced. Finally, we were ready to actually start the engines. With the starter engaged, we started to get turbine gas temperature spiking on the No. 2 engine. We shut it down and then tried a restart. The spiking continued. We decided to let it run to see if residual water left over from the wash was the cause.

We shut down, and the maintainers continued troubleshooting. At about the two-hour mark, we decided to call it quits.

Even if the problem could have been fixed in the next 20 minutes, there were too many signs suggesting that this mission would be better off scrubbed. If the tool users had been practicing tool control, and if I'd questioned the young airman when I first suspected him, we could have concentrated on getting the bird ready to fly. ◄

Lt. Brady flies with HSL-42.

We're curious where the other two tools came from?–Ed.



Lt. P.J. Azzolina

Three Strikes! You're Out!

by Lt. Albert D. Altura

The TGT indicator spiked repeatedly after we lifted in a 10-foot hover

On our first day out for an aircraft carrier OPPE detachment, Air Ops tasked us to take passengers to the beach. Although the beach was a mere four miles away, we were eager to get flight time on what was supposed to be a no-fly det.

After a thorough preflight, we mounted our first of many helos that day. The first helo responded to all ground checks until it was time for engine start. After running at idle for approximately one minute, the No. 1 engine flamed out. Not knowing the reason for the flameout, I decided to take the det's second helo. Helo No. 2 was a lot more cooperative, and we launched for our first passenger transfer.

Our takeoff checks were complete for our return to the carrier, but the TGT indicator spiked repeatedly soon after lifting in a 10-foot hover. Fortunately, the beach was also our homeplate, so there were plenty of helos we could use to swap to complete our two-helo det. Determined to complete our passenger transfer for the ship's personnel (one day underway), we mounted helo No. 3 and recovered onboard the carrier.

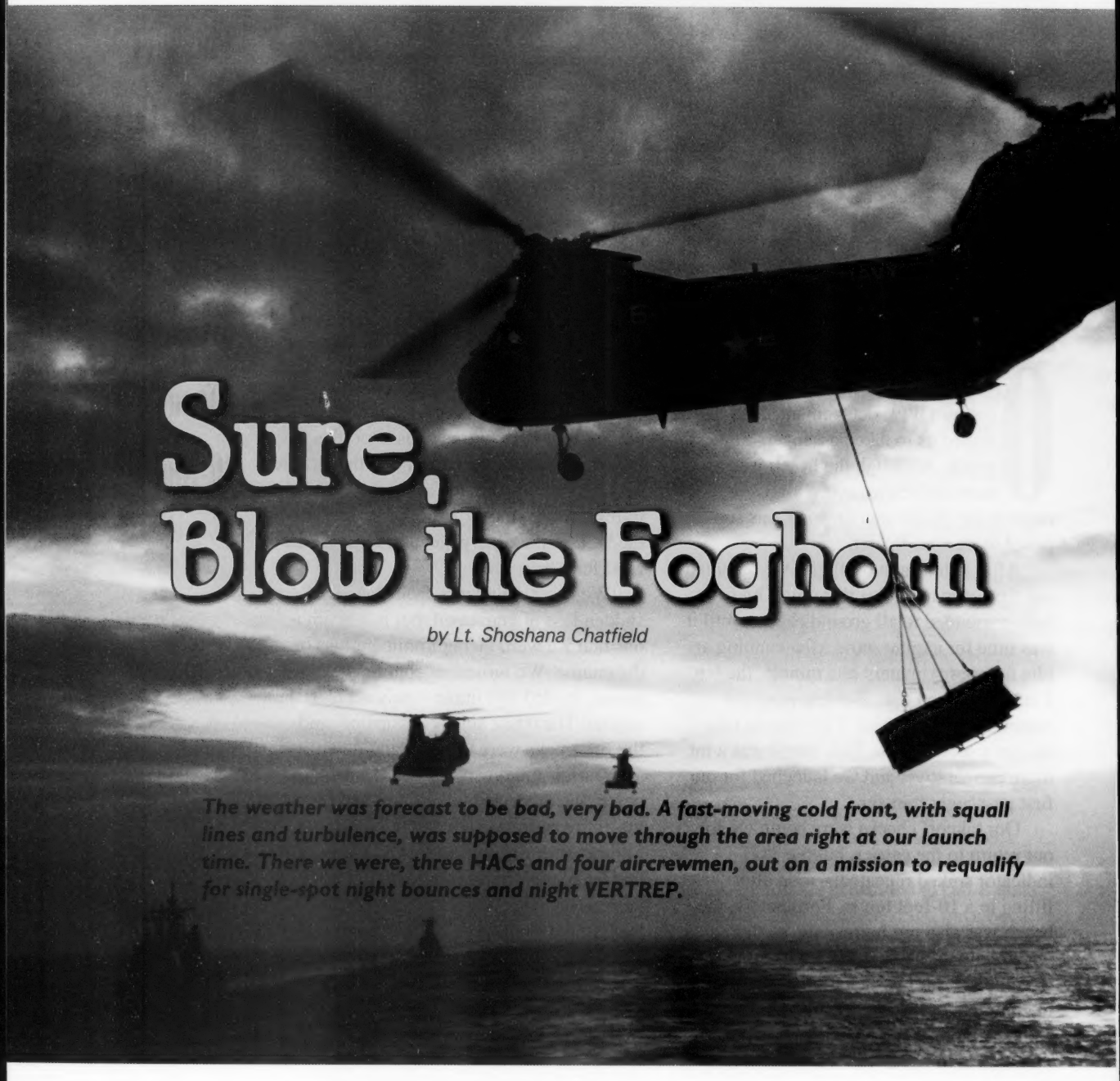
During our second beach run, the fun continued. Two miles from the beach, with the H2P at the controls, the caution light for engine-oil pressure came on. I reached for the checklist and started looking for the engine-oil EPs. Two seconds later, the towers from both the carrier and the airfield called to tell me that my aircraft was trailing white smoke. I still had not opened the PCL to the right page, and we were on final for a helo pad.

We had no guidance from NATOPS for sudden loss of engine oil, but it was obvious that we were facing imminent loss of the engine. We turned on contingency power, landed and immediately secured the engine. The white smoke dissipated, and the fire trucks were told to stand down.

During shutdown, we heard a grinding noise. We inspected the aircraft and found the entire right side covered with oil. Maintenance discovered that an engine bolt had been improperly installed after a white-harness change. The bolt keeps oil from leaving the sump.

We were lucky that day. The carrier was four miles away instead of 140. There were plenty of eyes looking out for us, and we ran through a non-immediate action emergency procedure without delay. We could have easily lost the engine, and possibly the aircraft, because of lube-oil starvation.

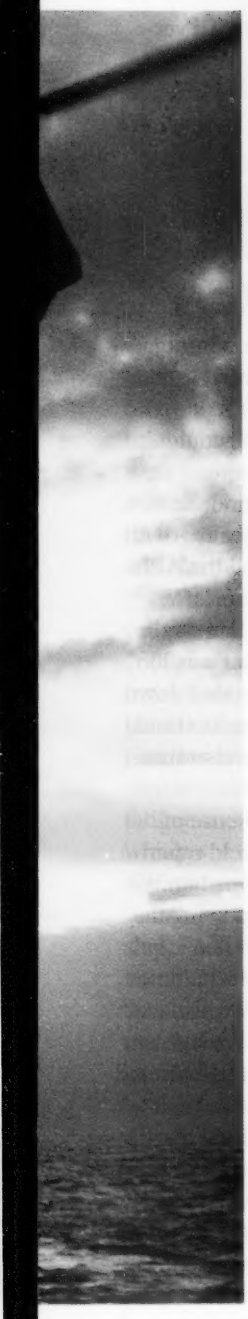
Lt. Altura flies with HS-2.



Sure, Blow the Foghorn

by Lt. Shoshana Chatfield

The weather was forecast to be bad, very bad. A fast-moving cold front, with squall lines and turbulence, was supposed to move through the area right at our launch time. There we were, three HACs and four aircrewmen, out on a mission to requalify for single-spot night bounces and night VERTREP.



The forecaster said the front had "kind of stalled" off the coast but would certainly be moving ashore some time that evening. Since small-deck time is precious, and we were really short on night-current HACs in the squadron, we launched to see what we could get done.

We had a good brief, reviewing the night pattern and standard night voice procedures, before we made that last call to weather. We were surprised at the good weather when we arrived at the ship about 20 miles off the coast. The weather-guesser had been right: we saw a line of clouds off in the distance and sure enough, it wasn't getting any closer. The ship took up a southerly direction as we proceeded with the day bounces and VERTREP.

After day-qualifying both pilots, we landed to take on fuel and went right into pinky time. As the sun faded against the clouds, we remarked about how well the weather was treating us. Figuring our luck would run out eventually, I dialed up the local Metro channel, but we were too far out and too low.

We completed 12 night landings and 12 VERTREP picks-and-drops and landed for the crew swap. It was too dark to see how far away the storm was. We launched to finish our last six cycles, and the visibility dropped on each pass. Finally, I'd had enough. I told my copilot that this would be the last drop. As we rolled onto final, he shifted his instrument scan to pick up the ship visually.

"Where's the ship?" he asked. I told him the ship was at 11 o'clock. He said he couldn't see it. Finally, at a half mile he spotted the ship, and we relayed our intentions to the HCO that we were going to drop the load and land right next to it.

As we were being chocked and chained, the storm hit. It was much worse than I imagined. I felt the aircraft buffeting in the wind. The LSE was having trouble standing up, and it sounded like we were getting some droop-stop pounding. The HCO called with a message from the bridge: "Sideflare 64, the OOD wants to know if it would bother you if we sound the foghorn." Up in the cockpit we looked at each other and laughed.

"You know," I said to my copilot, "the only way I could feel more stupid is if they had asked me that while we were still flying."

We told the ship we needed to shut down. They replied that they didn't have any racks for us if we stayed. When I told them that we couldn't fly off in that weather they finally caught on. Then the CO had a great idea. He offered to turn the ship and drive us back toward San Diego, figuring maybe we could outrun the storm. We were all for it and elected to remain spinning on deck. That's when both engine fire T-handles lit. We looked at each other and laughed again.

"Thank God, both engines are on fire," my copilot said. We sat in the cockpit for 45 minutes watching the helo's electrical systems react to the downpour while trying to tune up ATIS at home field. We were still more than 20 miles away when we got ATIS at the OLF. They were calling 4,000 broken, VFR.

At 20 miles southwest of our home field, we got the current weather: 2,000 overcast and five miles visibility. We looked up at the cloud layer and convinced ourselves it was no lower than 500 feet. It looked like 700 feet to me. I knew we could make it.

My copilot convinced me to top off with fuel just in case we had to shoot a couple of approaches. All seven of us

I was totally unprepared when the controller told us he had lost radar contact on final...

loaded up and took off. We had no backup plan. We were going straight to home field. We were not going back to the ship. The ship's ELVA was not working, which we had proved earlier in the evening.

We launched with my copilot at the controls. "Good pull," I said, "positive rate of climb." I slaved up the compass as we went through 150 feet and straight into the goo.

My copilot said, "I'm on instruments."

Until then, we had only been able to receive the OLF on our TACAN. When I tuned in home field it was 060 for 13 miles.

"Come left," I told my copilot. We were heading 120 with a slight right yaw. "You're drifting right. Come left," I said as we passed through 150.

Then, my copilot said, "I've got a little vertigo."

We passed control. The crew chief was instantly there, scanning the gauges. I ran through our options as I realized our situation was pretty close to very bad.

We dialed up Approach and told them we were inadvertent IMC at 200 feet and requested vectors to the GCA at home field. I began to feel much better as they assigned us a squawk and a climb away from the water and (I hoped) out of the clouds. I remember feeling relieved as we broke out at about 2,000 feet, and I saw the lights of the city. I was happy to be safe on a GCA. It even looked as though we would land just before the really huge clouds hit the airfield. I was totally unprepared when the controller told us he had lost radar contact on final and to turn to 180 and expect vectors for the ASR approach. I analyzed the situation in a split second. We had two choices: turn directly into IMC where we'd already had a case of vertigo in the cockpit, or cancel and fly up the bay while we were still VMC. No contest there. We canceled and proceeded up the bay.

Things were going great until Tower told us to turn left immediately because the international airport was IFR and landing a different runway than normal. We descended into a cloud that put us back in IMC, and back on instruments.

As we prepared to turn south, one of the crewmen yelled that he could see the lights of the city at one o'clock. Suddenly, we were VFR at 500 feet over our VFR checkpoint. There was no way we were turning. Tower finally cleared us to proceed as the rain became heavier and heavier. As we landed, it was raining so hard we couldn't see the taxi lines on the ramp.

We taxied in for shutdown and the APU refused to light off, probably because of all the water. We shut down without the APU and went into the squadron to debrief.

We learned several lessons that day. Once we had decided the weather was too bad to continue, we should have shut down. When the aircraft electrical systems started malfunctioning, we should have also shut down.

We were lulled into a false sense of security when we heard home field reporting VFR. We never had a backup plan. We launched into marginal VMC knowing the ship's ELVA wasn't working.

If we had lost an engine, we would not have had an APU for a restart. We also had get-home-itis. One good thing: We had excellent crew coordination. We had briefed vertigo and instrument conditions. All members of the crew remained alert and contributed vital information during the entire flight, from the copilot recommending that we top off with fuel, "in case we have to shoot an approach or two," to the second crewman maintaining lookout and being the first to call the lights of the city.

Lt. Chatfield flies with HC-11.

8 to 1! We Never Had a Chance!

by Lt. Brett Stafford

It was our first night underway, and the first mission of the deployment. Even though we had all been up with the sun, finalizing last-minute details, we were pumped to fly. The mission was an encounter exercise: the Mayport-based ships were to sortie EMCON and try to locate the ships from Charleston and Norfolk before they found us.

We briefed the hop. The weather forecast was low ceilings and no moon, a fantastic pitch-black night. At 2000, we launched. After ensuring our KIT was working, we were vectored to a pre-determined location to climb and radiate the radar. The mission went well at first, but weather had deteriorated to the point where we couldn't identify the ships as we flew past them. The fatigue and increased workload made all of us irritable, which was not the way I wanted to start a six-month deployment.

As we continued to sort out the radar picture for the ship, I noted a white strobe light in the fog and haze ahead. The HAC was describing each contact back to the ship via the Hawklink, while the AW and I tried to match the strobe to one of the many radar blips.

Suddenly, the HAC piped up that the strobe might be the Seahawk from the ship we were trying to locate. The ASTAC onboard the ship confirmed that the FFG's helo could be airborne.

We discussed that the strobes should have been red for night flight, but we talked ourselves into the possibility that they had forgotten to configure them. At this point, we were still closing the strobe. I was becoming very uncomfortable with our rate of closure, so I began to turn away. I worked very hard to keep the strobes in sight yet not get too close. But every time I turned, the strobes would pop up again out in front of us as if the "bogey" was countering my every move.

Soon, all three of us were looking outside the aircraft trying to keep sight of the other aircraft as we jinked, turned, dived, climbed, sped up and slowed down, all the while passing in and out of the clouds and fog.

We were all convinced that this had become a tail chase, and the discomfort level was now unbearable. The ASTAC then yelled for us to watch out for a tower in our area, but since we were all so wrapped up in the chase no one really caught on to the important implication of this bit of information. Suddenly, someone had the foresight to place a reference mark (via data link) on each of the towers in the local area. As they appeared on our multi-purpose display, the pieces of the puzzle began to fall into place.

We had, for nearly 45 minutes, been chasing and were chased by as many as eight different oil platforms marked by white strobe lights. It is no wonder that the elusive helo had been able to stay on us; it was eight on one! I felt pretty stupid in the debrief, but I gained a series of valuable lessons learned on this unforgettable night.

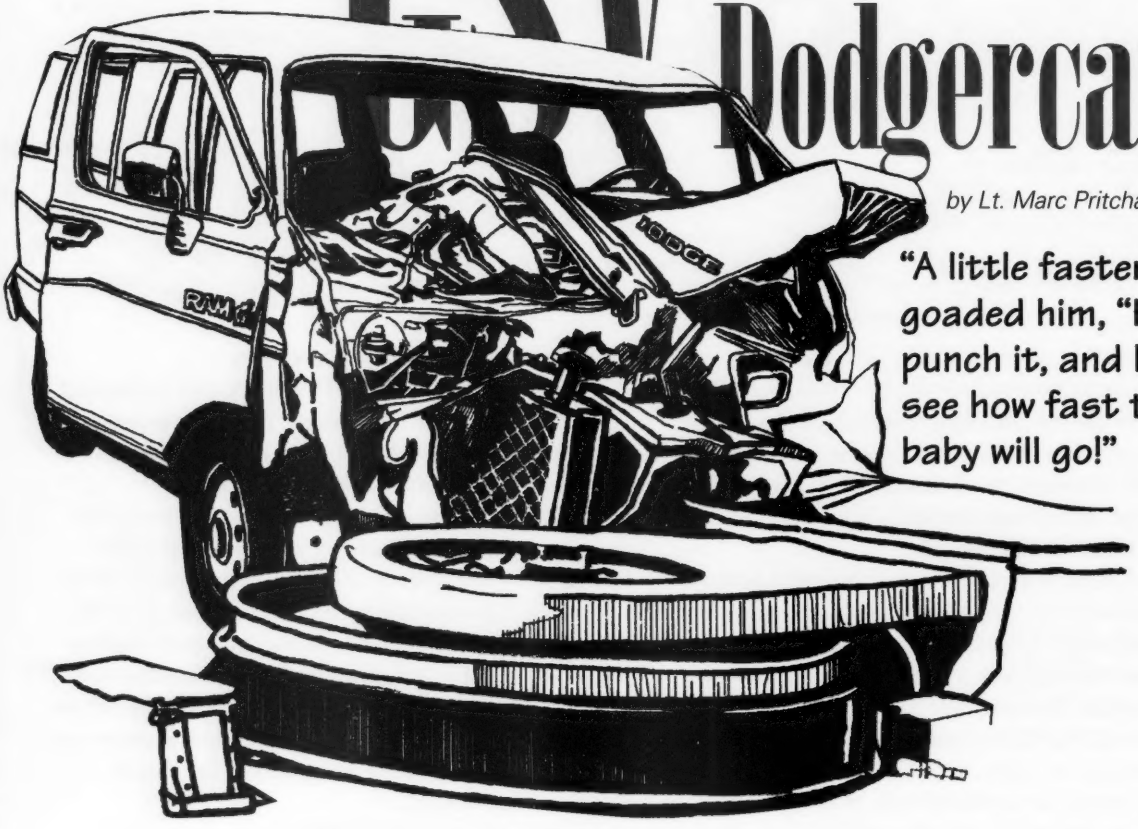
First, take the time to review all the available information during your preflight brief. These towers, "commonly mistaken for helos," were not shown on the VFR sectional covering our op area, but they had been on the Nautical Navigation charts as "hazards to navigation." What an understatement!

Second, the best thing you can do for yourself and your crew is to ask a human-factors question at the beginning of each preflight brief. Ask about crew rest and everyone's state of mind before finding out that fatigue and the desire to make a good first impression are going to fog the otherwise good judgment of the crew. ◄

Lt. Stafford flies with HSL-44.

GSV Dodgercars

by Lt. Marc Pritchard



"A little faster?" we goaded him, "Hell, punch it, and let's see how fast this baby will go!"

Two happy squadron LSOs and three "wannabees" headed out in one of the Navy's finest ground support vehicles (GSVs) for a night FCLP. Speeding out to the LSO shack, we encouraged our driver to get us there a little faster.

"A little faster?" we goaded him, "Hell, punch it, and let's see how fast this baby will go!" We arrived safely after our thrilling ride, and began swapping stories with a couple of FRS paddles when another GSV (GSV No. 2) raced by the LSO shack with a bag o'knots and plenty of G available. This driver wasn't so lucky; he overshot the turnoff and, in an attempt to clear the runway, pulled off the 200-plus-foot slab of non-threatening concrete and planted his GSV firmly in the mud. He got out and surveyed the situation. Then he returned to the vehicle and shut it down.

He approached with a confident stride, as if he meant to leave the vehicle parked 100 yards in front of the shack, stuck in the mud. We all stopped laughing just in time to give him a feeling of uncertainty. Waiting for just the right moment, we nonchalantly asked about his vehicle.

"It's stuck in the mud, isn't it?" we observed, which, of course, brought another round of laughter and a quick lecture on the lack of urgency with anything concerning FCLPs.

So, there we were in the shack, enjoying the lights of the Hornets reflecting off the white paint of GSV No. 2, pass after pass, when Tower called a foul deck. We

waved off an aircraft that was only 400 pounds above minimum fuel and asked Tower why they called the "foul deck." Tower responded that there was a vehicle (GSV No. 3) off the runway, near the arresting gear (approximately 4,000 feet from the LSO shack) and that they had no confirmation it was clear of the runway.

We checked to see that the deck was indeed clear, and finished the FCLP period.

Another GSV (GSV No. 4) arrived to return the happy paddles back to the squadron, when out of the fields came the dazed and bloody driver of GSV No. 3. The situation was no longer funny. In his haste to clear the runway, the driver had hit the arresting-gear motor head-on, with enough force to spray shattered glass 70 feet from the vehicle. The glass broke because the driver wasn't wearing his seat belt.

We called for an ambulance to meet us at the base of the tower. Rushing back to the tower and listening to the radio, I was able to see first-hand how rumors get started aboard ship. The left-to-left (or was that right-to-right?) that GSV No. 3 had with the arresting-gear motor turned rapidly into a report of an overturned vehicle. Because I didn't jump on the radio quickly enough to tell Tower of their error, this quickly turned into a report of an overturned aircraft. By now, every GSV with a radio and twirly light was headed out to the runway. It was just like those panic bits from one of the "Airplane" movies. I had seen enough at this point and decided to come up on the radio to tell everyone that the communist hordes had indeed been stopped at the border and life, as we knew it, would shortly be returning to normal.

The driver went to medical with a concussion and face lacerations; his GSV was wrecked. The injuries far outweigh the loss of a vehicle, but why did any of this happen? How can we prevent this in the future?

Lesson No. 1: Lead by example. It should not take a brain surgeon to realize that five lieutenants can seriously influence an 18-year-old airman. We had no business turning our ride to the shack into a van race. We are responsible for training and being positive influences on junior personnel. Our responsibility does not stop at our squadron spaces.

Lesson No. 2: Always wear a seat belt. We still lose too many of our shipmates to not wearing seatbelts. None of us would think, "Well, I'm just bouncing today, so I won't need to strap in". Neither should we think, "Well, I'm just driving out to the shack, so I won't need to wear my seat belt."

Lesson No. 3: Don't run with a stick in your mouth. Rushing around with more than one thing on your mind can lead to disaster. Ensure that the people you supervise are aware of their primary mission. Take the time to stress that no task is so time-critical that we have to risk loss of life or damage to property. Phrases such as "Cross without delay," or "Can you accept an immediate?" should not generate hazards.

Lesson No. 4: Not everyone has a version of aviate, navigate, and communicate. We have been blessed with compartmentalization training since AOCS or the Naval Academy. But, many of our people are not as well trained in breaking down important tasks and avoiding "panic central." Do you take the time to stress compartmentalization and the need to stay focused when doing even the easiest of tasks? Driving a vehicle is a relatively simple endeavor, especially on a 13,000-foot runway. But, what if Tower is pressing you to clear and turn off your lights, or paddles is screaming for a clear deck? A simple task can get lost in the shuffle.

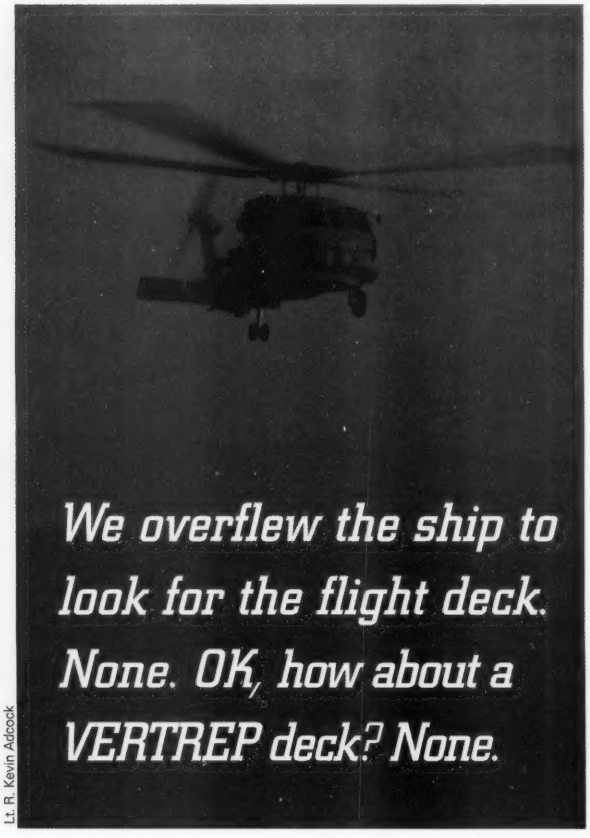
Just when you think you have seen it all, something will prove you wrong. Just as we are all the skipper's safety officers, and everything is funny until someone loses an eye, we are also responsible for the safe and expeditious recovery of our aircraft, our vehicles, and most importantly, our people.◄

Lt. Pritchard flies with VFA-146.

It was just like those panic bits from one of the "Airplane" movies.

Danish Pizza Delivery

by Ltjg. William E. Buckley



Lt. R. Kevin Adcock

Deployed to the Adriatic, my HAC and I had to pick up the task force commodore and his aide from a Canadian frigate and transport him to a Danish frigate. Things began to deteriorate even before we strapped in.

First, no one knew the location of the Danish ship. Second, the only information about the ship contained in our brief was the ship's name and hull number. CIC couldn't even give us a radio frequency, Mode 2 or TACAN channel. Last, no listing of the Danish ship was to be found in the HOSTAC. Nevertheless, we agreed — we hadn't had any trouble finding other ships, and a fly-by to reconnoiter the deck would be adequate.

We launched from the Canadian ship with our passengers. After giving the "Ops normal" call, I turned toward where I thought the frigate might be.

We tracked southward while asking our own ship and the Canadian ship about the location of the Danish ship. No joy. Now what? We had a high-visibility passenger, but we had no idea where we were going. Wouldn't he be impressed? We did what any self-respecting aviators would have done: we acted like we knew what we were doing and charged ahead.

When we were approximately 20 miles to the south, the Canadian ship finally gave us a vector. I rogered the call and turned with about 60 miles to go. Shortly thereafter, our own ship gave us a vector that agreed with the original. Having regained our warm-and-fuzzy, we began to brief crew coordination with our crewman in case the ship didn't have a flight deck and we had to hoist the passengers.

Sixty miles later, we didn't have comms with the Danish ship. The Adriatic is heavily traveled by both military and civilian vessels. We found ourselves among multiple radar contacts with no idea which one was our destination.

Having no other option, we reverted to using the old Mk-1 eyeball to find our friend. We approached every ship with a warship silhouette to see its hull number. Recognizing the steadily increasing stress level up front, our crewman had the presence of mind to casually deselect cockpit ICS from the commodore's headset. The HAC and I continued to VID the numerous surface contacts while trying every frequency, including guard, to no avail.

Hawking the fuel gauge, we began to think that we were either going to have to depart for home soon, divert to the beach, or land on the oil rig we had seen a few

miles back. Boy, would the guys back home get a kick out of that one.

Finally, the Danish ship answered the radio. Unsure of our position, they were unable to give us a steer. Still not ready to give up, we used the controller's slow English to our advantage by selecting ADF and getting a point to his position.

We overflew the ship to look for the flight deck. None. OK, how about a VERTREP deck? None. Oh well, just an open spot would suffice. The only problem was, this ship's entire main deck was clobbered. Time to play the "say again, over" game on the radio once more.

They told us to hoist the passengers down between the forward gun mount and the bow. After a few minutes of discussion, we decided to approach port to starboard. The hoist would be done with us 90 degrees offset from the ship's course. Since I was in the right seat it would be my approach.

As I flew in, I matched the ship's speed in sideward flight. We came over the bow, and the crewman began conning me toward the small open area just forward of the gun mount. Steadying into position, I was craning as far right as I could see to keep the ship in view.

Hovering in this unnatural position, I began to drift forward, which further reduced my visible references. Within moments, I had had enough of the ship driving toward the tail rotor, with my not being able to see very much of it. I pulled power and nosed over just before the HAC called for a wave-off.

The fact that I had made the right call didn't help my pride much. For the first time in the flight, the commodore spoke up and suggested a "down the throat" approach. It sounded good to us. Preparing to give it another try, we called the ship to explain our plan and ask for relative winds as close to up the stern as they could give us.

I set up to approach the ship bow-on. Closing pointy end to pointy end, I matched the ship's speed to hover over the bow. Finally, there we were, eyeball-to-eyeball with the bridge, flying backward, hoisting two people onto the forecastle. The bad part was that to get the commodore back to his own ship we had to return and do the same thing two hours later.

Talking things over in the debrief, the HAC, aircrewman and I all agreed that we probably hadn't done the smart thing. Feeling the pressure to be able to get the job done for the commodore and to not wimp out in front of our allies, we hadn't used common sense.

First off, we should never have accepted an inadequate brief. The scant pieces of information we were given were no basis for a mission, no matter how simple. Also, the pubs designed for preflight planning should never be taken lightly. If the book says you can't land on a ship, or in our case, the ship isn't even in the book, there is probably a good reason for it. Trusting our own eyeball judgement from a fly-by was our justification for not insisting on having necessary information. Also, a lull in the flight is no time to decide to brief an expected event. We all knew before the launch that there was a good chance we would do a hoist. Yet, we neglected to conduct a brief until we were inbound to the ship.

Once we saw what we had to work with, we should have had the intestinal fortitude to tell the commodore that a hoist in those conditions was unsafe. As the flight crew, it was our responsibility to decide when to draw the line. Passengers, no matter who they were, should have been able to respect that decision. After all, it was their life we were endangering as well as our own.

Ltjg. Buckley flies with HSL-42.

Controllability Check?

Who Needs It?

by Capt. Fred McGuire, USMC

The weather in Westpac normally comes in two varieties — nasty and worse. Today was in the latter category.

During the early morning hours, while the entire squadron was on the "slide" looking for takeoff mins and a suitable divert, the operations officer proposed sending two sections to Korea where the weather was better. As he looked for volunteers, my hand was the first to go up. Flying is flying, good weather or bad.

I was designated the lead for my section. I was to take one of the squadron's prospective air-combat tactics instructors with me and do some 1 v 1 work-up flights.

We got some exclusive-use airspace and checked the weather. Preflight planning complete, we briefed all aspects of the flight to include a weather mission. We briefed training rules, including spin departure and all aspects of our weather dilemma.

After takeoff, we used radar trail until we found better weather to let us join up. Although the weather in Korea was better, it was multi-layered and air combat maneuvering (ACM) was going to be difficult. I called a change to our forward-quarter missile defense (FQMD), and all-weather intercept (AWI) backup plan.

The FQMDs provided good training, and we did them easily in the holes the weather provided. The AWIs, the most benign of missions, proved to be the most exciting.

We had completed a couple of fly-through intercepts, plus one attack-reattack each. I decided it was time for the bogey to get a bit more aggressive.

I came in to prebriefed first-shot range and made an aggressive FQMD. As the bogey, I decided to try an Immelman attack on the fighter (if I could sneak in). I started my nose up aggressively and watched the fighter's reaction. As he pulled hard into me, I increased my pull, trying to reduce the overshoot prior to the knock-it-off call.

Near the apex of my attack, with about 250 KIAS, my jet violently departed to the left! I wasn't sure what I had done and really didn't care. I had my hands full. I quickly observed SPIN logic. This was not the trainer! I applied spin recovery procedures, and after numerous iterations of post-stall gyrations, the jet righted itself, allowing me to recover a bit below the "10,000 feet" that my wingman had called out a few seconds before.

How did I do this? I know how to maneuver this jet, and this situation was nothing special. How could I goon it up with 1,500 hours in type?

My wingman joined and reported that everything looked normal, confirming my own visual and all cockpit indications. We decided to go to the first field available and land. I set up for a straight-in and sent my wingman ahead into the break. He landed in front of me. I decided to get set up early. Gear down, no problem.

As I began slowing with the flaps down, I had to feed in a lot of left stick and rudder to keep my aircraft straight during the approach. The slower I got, the more squirrely the aircraft got, so I decided to go around. As speed increased, the Hornet became more controllable, so I decided to land a little fast. Boy, I wished I had done a controllability check. It just hadn't seemed necessary, and now I didn't want to take the time so close to finishing this flight.

This approach was uncomfortable but controllable, so I put it on the ground. Still no Xs or other indications. I discovered the right aileron's connecting link had snapped, and only differential stabilators and rudders were working to keep me on final. A 20-knot crosswind from the left didn't help my alignment.

If I had done a controllability check at altitude, I might have discovered that full flaps wouldn't work at approach speed, so a half- or even a no-flap landing might have been a better option. I might have also avoided my colorful approach.

Thinking about making that first approach will haunt me for some time to come. Thinking about trying an approach like that in the goo back in Japan, with no ground reference, the mountains really spook me. ◄

Capt. McGuire flies with VMFA-115.

I know how to maneuver this jet, and this situation was nothing special. How could I goon it up with 1,500 hours in type?

Options were disappearing fast...

After a restful night following yet another rerun of the only movie the ship seemed to have, the day began with the promise of finally getting our AV-8Bs in the air. The detachment in support of a Marine Expeditionary Unit had begun with a reasonable plan that inexplicably changed and continually evolved from the first time we were chocked and chained on the LHA. Fortunately, the idea for us to land on the LPD to qual their deck was scrapped because all the pilots had not been onboard ship for some time. Landing on an LPD is primarily for emergency recovery but is a better option than swimming.

To this point, the lack of flight time had been a combination of problems with the SINS, getting a slice of the air plan, and the unfavorable winds that interfered with the PIM.

During the HDC brief, the three pilots and the LSO tried talking the weather briefer out of something other than winds aloft at 500 feet. We also wanted a little more information from Air Ops on our divert besides that the airfield was somewhere in China with a name that no one could pronounce. But what the heck, the weather department predicted no lower than Case II with the terminal forecast being 1,500 overcast and five miles visibility. We covered emergency marshall, as well as the position of the other ships in the ARG (we figured that was for the helo bubbas). The ship's radar and TACAN were reported up, and comm is never bad in the gator navy.

After man-up and start, we found out that the SINS was down again, both RF and cable. A manual alignment would be the only option. The weather still looked reasonable, and TACAN was looking good. Tower said that CCA was still sweet. After too many false starts at getting some great flying, it was time to go for it. Another option tossed away, but we still had plenty left.

We positioned the Harriers on the TRAM line, which is like a free-deck run line for you tailhook restricted types. The sky seemed to get a tad darker, but we were itching to get in the air.

The first aircraft launched, with the division lead second, and number three last. Right at the nozzle rotation line, the first pilot called that he had gone into the clag at 500 feet. Too late now.

Off the bow, I switched to center and guess what? The silence on all frequencies tickled my survival sense that things were going downhill fast. Fortunately, Dash 3 dutifully launched behind me and quickly caught up before we were absorbed by the mist. Another option gone, but no sweat. The TACAN was good even though the ship's comm was down. Dash 3 was having problems as well, but comm between the three Harriers was good.

So, what about the backup radio? All the ship had was a PRC-77 in Prifly, which couldn't transmit beyond an average left-field fence. The first AV-8B to launch was now somewhere high above when he reported that the TACAN was not working.

He reported tops above 20,000 feet and said he was going to orbit over the general area until he could get comm for a radar descent to an approach or head to China when he was down to divert fuel. Options were disappearing fast.

After trolling for 20 minutes under an overcast of 500-700 feet, we were able to catch sight of the

Is That the Option Low-Light?

by LtCol. Bron Madrigan, USMC

ship. While the prudent thing might have been to go to emergency marshal IMC and wait for our charlie time, my confidence in the ship's systems was diminishing fast. As the saying goes, "One 'see you' is worth a thousand 'radar contacts.' "

Simultaneously, we finally established comm within three miles, and coupled with intermittent radar, we got to a reasonable position to land. No matter how long you fly, a "paddles contact, keep it coming," is still sweet music.

High overhead, the aircraft without TACAN descended to see if he could pick up the ARG once underneath. Not the best plan, but the option "low-light" was bright and steady.

After sporadic radar contacts and infrequent radio calls with the LHA, the Harrier emerged above the sea and began a search pattern for ships in the ARG. With only 10 minutes before he had to commit to a max-range profile to somewhere in China, he spotted the LSD. Remembering the ARG's formation, he hooked a left knowing that the LHA should be positioned approximately five miles to port of the LSD. At two miles, he got a tally-ho on the ship, and while the weather was turning foul, the best action was a downwind entry to a landing. He hadn't completely run out of options, but his choices were down to precious few.

Flying Harriers around the ship is risky because the atmosphere focuses primarily on rotary-wing operations. Also, while the LHA or LHD is no CVN with its sophisticated systems, the pace of operations is similar.

Life and naval aviation are full of options. Never discard your options without weighing all the variables to know which ones you have left. And never discard them without reason. ➤

LtCol. Madrigan commanded VMA-231. He is currently assigned to the Naval War College.

Ragtop Prowler

by Lt. A.C. Deprizio

"Cruisin' in my 5.0, top down, so my hair can blow." This line, by my favorite rap artist comes to mind whenever I think of the following incident.

It was a partly cloudy spring day off the coast of Southern California. The squadron was at the end of an arduous workup cycle in preparation for a midsummer deployment. We were looking forward to going home to Whidbey Island and getting out of all that sunshine.

We launched on a counter-targeting and antiship-missile defense mission. The flight went as briefed, and before we knew it, we were on our way back to marshal for a case II recovery.

"Marshall, 620 checking in, state nine-oh." We got our marshaling instructions and in no time, we were established.

After holding in the stack at 12,000 feet and 240 KIAS, my pilot said that he needed to use the relief tube, so I began to make notes for the debrief. Suddenly, boom, bang, whoosh! My first thought was that the canopy seal had deflated and caused the cockpit to depressurize. I looked at the annunciator panel and sure enough, the canopy light was on.

The backseaters called over the ICS in calm and cool tones, "We lost the aft canopy! We lost the aft canopy!"

My reasoned reply was, "Whaddya mean, we *lost* the canopy?"

To which the backseaters carefully explained, "The aft canopy is gone. It blew off the jet!"

The pilot started a descent as I told Marshal that we wanted to talk to our rep in prifly.

"620, rep." It was the soothing voice of one of our most seasoned ECMOs.

"Rep, 620, we have lost the aft canopy. We're descending to angels 2, and we'll need somebody to look at us."

All this happened quickly, and once things settled down, I asked how ECMO 2 and ECMO 3 were doing.

"A little cold, but OK otherwise," they replied.

As an F-14 checked us over, I asked the backseaters to look for shards of glass that could be a problem on recovery. The Tomcat crew gave us a thumbs-up and departed as we continued inbound.

"620, Skipper here."

"Go ahead, sir."

"I'm going to recommend that you bring her aboard, unless you are uncomfortable with that."

My pilot replied, "Roger that," and on we pressed.

We dirtied up and told the Boss that we were ready to make a straight-in. The pilot flew a perfect pass, snagged an OK 3-wire and our strange odyssey was over.

The pilot's relief tube had actuated the auxiliary canopy-release system. The windstream then sucked the aft canopy off, and voilà! Instant convertible.

We had a lot of things in our favor that day. First, the canopy did not do much damage to the vertical stabilizer. A standard canopy jettison provides much-needed vertical separation, but without the extra lift, the canopy had hit the vertical stab. Significant damage was a real possibility. Second, we were day VFR and only 80 miles from a divert with lots of fuel, which gave us the greatest favor of all… time.

Most importantly, the backseaters were in proper body position. Their hands and arms were not resting on the canopy rails. Had they been on the rails turning to check the rear quarter of the aircraft, they could have easily hurt their arms and shoulders.

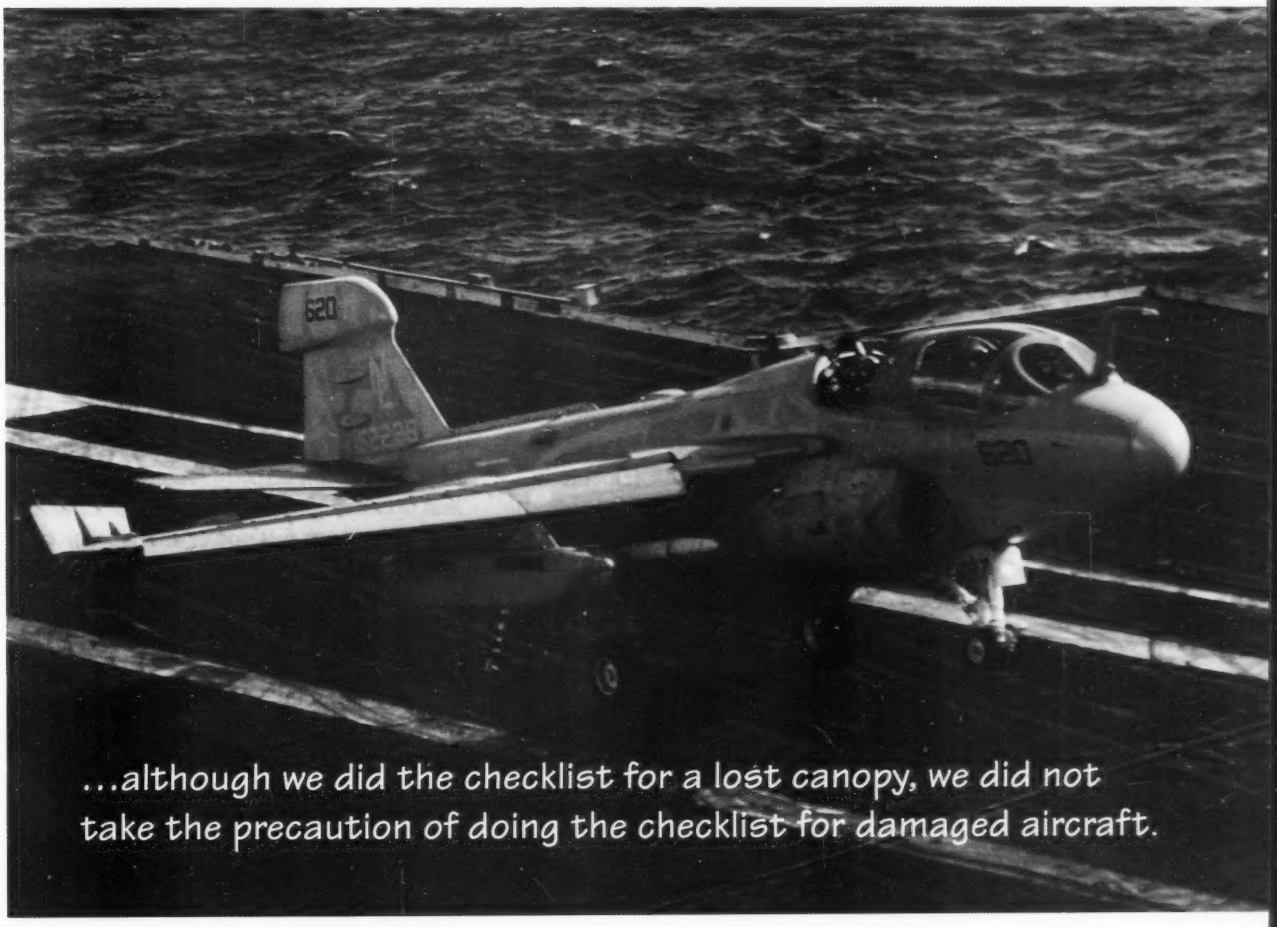
There were, however, several things we could have done better. We had violated basic CV NATOPS when we descended out of marshal. We should have stayed at our marshal altitude until clear of the stack and then descended. We let our emergency take charge. Also, although we did the checklist for a lost canopy, we did not take the precaution of doing the checklist for damaged aircraft. Both situations make the point of being well-prepared for emergencies by being extremely familiar with NATOPS and talking about the what-ifs before they happen.

Two good ways to prepare are a solid lecture series and taking NATOPS Questions of the Day on the flight schedule seriously. Talk about them and all the implications, because when the time comes to use the information, the "incredible shrinking brain" concept applies. ◄

Lt. Deprizio flies with VAQ-134.

"Whaddya mean, we lost the canopy?"

PH2 Andrew Hill



...although we did the checklist for a lost canopy, we did not take the precaution of doing the checklist for damaged aircraft.

Do It Right the 1st Time!

by Lt. Jay Lamoureux

It was an overcast Friday morning. We had just departed NALF San Clemente in our SH-3G on an IFR flight plan, which included a VFR on-top clearance. Our 10 passengers were looking forward to the weekend back at the mainland. After our normal takeoff and climbout, the local controller was confused as to whether the IFR portion of our clearance could be canceled without losing the VFR on-top (they are inseparable).

After straightening everything out with FACSFAC, our controlling agency, we were cleared to switch to Approach, climb to 5,000 feet, and head for home, or so we thought.

At this point, we noticed that the outside air temperature was 26 degrees C, because of an inversion layer above the overcast skies. This condition prevented us from maintaining our planned airspeed without exceeding the engines' limitations. We were also hindered by our helicopter's inability to crossfeed fuel above 4,000 feet. We talked about requesting a lower altitude to avoid these problems. Moments before our request, Approach cleared us to descend to 3,000 feet.

As we lowered the collective to begin our descent, a large torque split developed and the turbine-outlet temperature of the No. 2 engine rose rapidly. While still descending, we diagnosed that the No. 2 engine was having a compressor stall. We quickly carried out the NATOPS procedures for a compressor stall and "singled-up" the No. 1 engine.

During the descent, our airspeed started to increase, but we controlled it with the use of aft cyclic. As we added power to level off at 3,000 feet, the rotor speed (Nr) began to droop. Nr is life for a helicopter pilot; without it we would fall out of the sky.

After rechecking our gauges, we determined that we had been wrong. In fact, the No. 1 engine had failed as the collective was lowered. The No. 2 engine picked up the load from the No.1 engine and had gone to topping, which increased the temperature and made us incorrectly identify the problem. Realizing our mistake, we brought the No. 2 engine to full power and No.1 to ground idle.

Having declared an emergency with Approach, they first suggested nearby Palomar-McClellan Airfield for our emergency landing, rather than NAS Miramar, which had better weather but was a little farther away. Miramar was calling VFR conditions at the field; even though we were 17 miles from the field, we were in the middle of a cloud layer. Since Palomar did not have a compatible approach, we opted for Miramar.

PHAN Sean D. Flynn

By now, everyone in the helicopter knew that something was definitely wrong. At five miles, ATC was telling us that the field should come into sight shortly. We replied, "Popeye." Finally, after what seemed like a lifetime of reviewing all possibilities, we saw patches of ground through the chin bubbles. We requested descent below the overcast layer. Just before Approach replied, we broke out on a modified left base for the duty runway, and landed.

Before we shut down, we quickly briefed what we could expect. With a successful shift to accessory drive, we continued with the normal shutdown procedures, not expecting any response from the No. 1 speed selector. Our predictions came true, so we neutralized the controls and shut down the No. 2 engine.

Now that we were safe on deck and every one of us relieved to finally be on the ground, one of our maintenance troops who was onboard climbed onto the No. 1 engine to troubleshoot the engine failure. He immediately noticed smoke coming out of the compressor intake.

Everyone cleared away from the aircraft, and we started the post-shutdown fire procedures to extinguish any residual-fuel fire that might still have been in the combustion chamber. Our ordeal was finally over.

While waiting for our squadron's duty driver to pick us up, the other pilot and I discussed the lessons learned from our flight.

First, realizing and admitting that we had misread the initial indications, we still had time to correct our mistakes and save both the helicopter and everyone onboard. In that area, we were lucky. We also realized that the "analyze" step is very important. When faced with an emergency, slow down and make the right diagnosis the first time. ◄

Lt. Lamoureux was flying with HC-1 at the time of this story. He is currently assigned to HC-85.

Runaway CHAINSAW

by Lt. Dave Crounse

I began shouting the procedures for a pitch-locked prop overspeed.

This routine surface-search flight would be only my second as a PPC, but I felt confident in our abilities. The crew had recently completed tactical certifications without a hitch, and had spent six months and more than 400 hours flying surface searches in support of drug interdiction.

After a thorough preflight and crew planeside brief, we took off 15 minutes early and flew to the op area. Once we chopped VFR, we loitered No. 1 engine at 15,000 feet and descended to our on-station altitude. After five-and-a-half uneventful hours, we were ready to RTB.

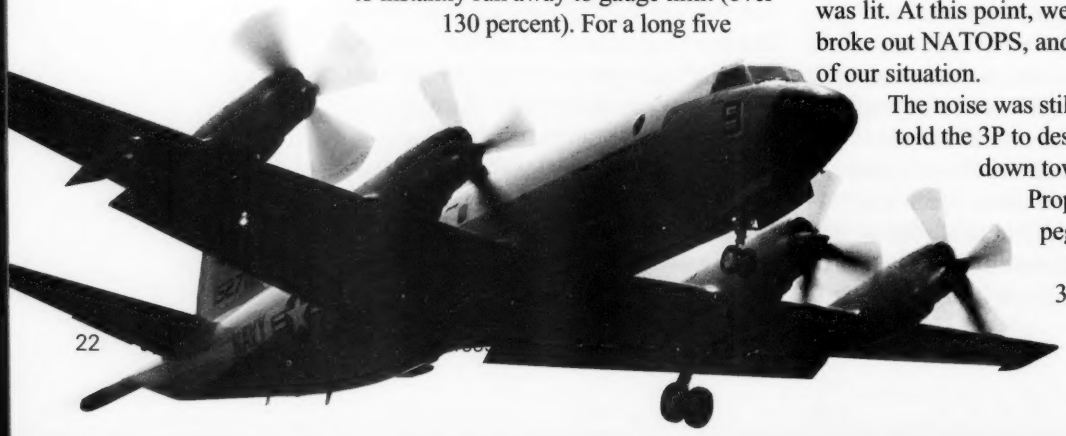
As we turned for home, our only minor concern was tropical thunderstorms along our route. I instructed the 3P to accelerate to 210 KIAS (NATOPS recommended airspeed for airstarts in non-range-critical situations) for the air start, which was textbook. RPM stabilized at 33 percent as the feather-valve light flashed steadily. After introducing fuel, we observed lightoff and rpm accelerated normally with both prop-pump lights extinguishing just before 40 percent. My comfortable flight ended as rpm reached 80 percent, and much to my wide-eyed disbelief, seemed to instantly run away to gauge limit (over 130 percent). For a long five seconds, I stared at the rpm gauge as the high decibel scream of the No. 1 prop flooded the flight station. It sounded as if someone had just started a chainsaw behind my seat.

When you fly P-3s, you develop a deep sense of caution and respect for all propeller malfunctions. In several cases, propeller malfunctions have produced Class A mishaps. One crew ditched because an overspeeding prop tore the engine apart. The lessons learned from these mishaps were about to pay off.

I checked the No. 1 prop and confirmed that the blade angle was abnormally low (no big surprise). Next, I made sure the FEAP (Flight Engineer Apprentice) followed NATOPS. I began shouting the procedures for a pitchlocked prop over-speed. Later, I found out the FEAP had been shouting the same procedures to me, but because of the deafening drone of the No. 1 prop, I couldn't hear him.

We completed the first few steps of the procedure, I told the 3P in the right seat to descend to 6,500 feet and decelerate to 170 KIAS. NATOPS recommends decreasing altitude and airspeed in order to slow the propeller rpm, which was still pegged at gauge limit. The prop-pump's No. 1 light was lit. At this point, we swapped FEs, broke out NATOPS, and began to take stock of our situation.

The noise was still deafening, and I told the 3P to descend and to slow down toward 170 KIAS. Propeller rpm was still pegged at gauge limit. As we reached 3,500 feet at 165



KIAS, rpm had decreased to 125-128 percent (good news), but the airframe had begun buffeting (bad news). A mild left yaw accompanied the buffeting and was one of my most disconcerting experiences.

We appointed the FEAP as data recorder and continued our descent to 1,500 feet. RPM decreased to 125 percent, and 13 degrees right-rudder trim was required to maintain centered ball. For every one-knot change in airspeed, a corresponding change of one percent in the prop rpm occurred. Leveling off, the noise decreased to a tolerable level. The FE and I thought the vibrations meant that the propeller or reduction-gear box was about to fail.

A lights check confirmed the proper operation of the prop-pump's No. 2 light, and an aft observer noted that he couldn't see any fluid on the No. 1 nacelle.

Even though we had a significant overspeed, I was not sure the prop was decoupled. We had not seen the excessive negative shaft horsepower that would have made the prop decouple from the engine. Shaft horsepower remained steady at negative 50. NATOPS says that shaft horsepower may indicate zero initially and then wander randomly after decoupling.

The absence of a prop-fluid leak and lack of a prop-pump No. 2 light also led us to believe that fluid reliability was not in question. Furthermore, our NTS (negative torque system) had been working 4.0 for the restart. As a result, we agreed to treat the malfunction as a pitchlocked-prop overspeed. Once we were sure of our landing, we would fuel-chop the engine in the remote hope that our NTS would work.

I began sorting through several possible outcomes. First, the propeller could separate from the aircraft, enter the No. 2 nacelle, walk across the fuselage, and otherwise wreak havoc on controllability and material integrity. Though unlikely, a failed gearbox could also start an uncontrollable fire, and we would have to ditch. Lastly, the prop could hold together for the 45-minute flight to Nassau.

In case we had to ditch, we noted the position of a Navy frigate as we passed overhead. Then I directed the 2P to hook up the flight-station helmets and verified that the TACCO had set a tight Condition Five (crew seated, gear stowed for landing). Another variable during our transit was the presence of scattered thunderstorms that would normally be a minor worry.

Approaching Nassau, thunderstorms kept us from a direct heading, thus extending our transit time and forcing us to consider the weather and proximity of our second emergency divert: Freeport, Bahamas. More importantly, I was unsure of the prop's reaction to the high winds associated with convective buildups.

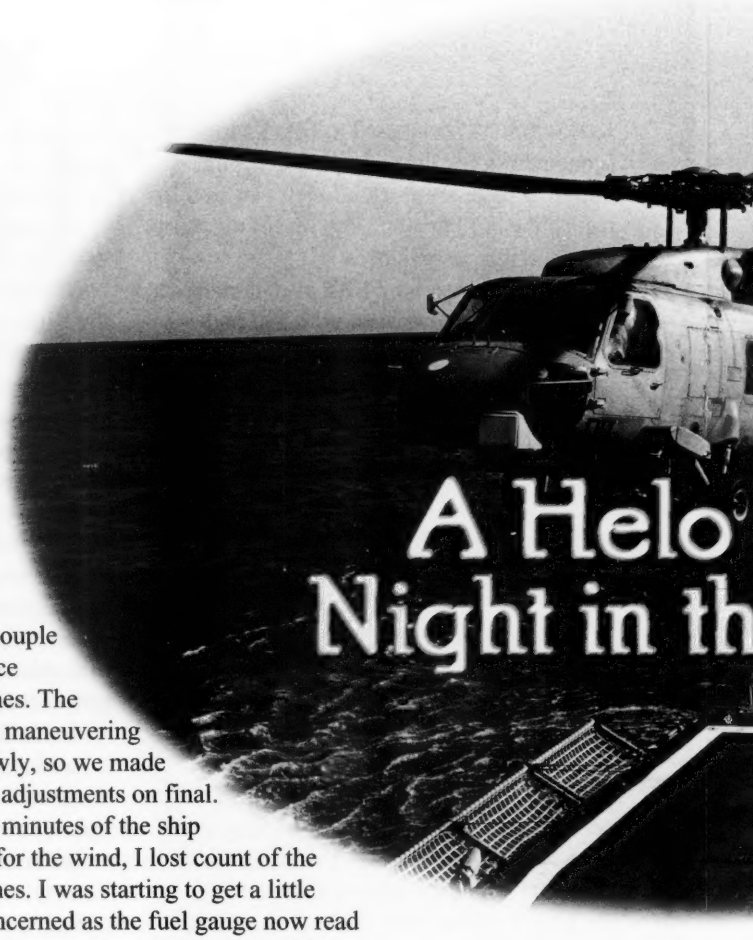
After dodging the weather, we had a somewhat clearer route to Nassau. At 40 miles, we declared an emergency. Winds were favorable for the 11,000-foot runway. Twenty-five miles from the field, we completed the descent and approach checklists. We had the field in sight at 20 miles.

Extension of flaps to the maneuver and approach positions had no effect on aircraft controllability. Overhead a clear and dry runway, we fuel-chopped No. 1 and, as expected, our rpm and shp indications did not change.

Turning crosswind, we descended to 1,200 feet, lowered the gear at the 180, and intercepted an extended final for landing. As the aircraft decelerated to 143 KIAS and at 450 feet, rpm was 100 percent with considerable (though not excessive) left yaw. Touchdown and rollout were normal. Rudder and differential power were sufficient to help maintain centerline. The longest 45 minutes of my life were finally over, and we were safe.◀

Lt. Crounse flies with VP-16.

...a failed gearbox could also start an uncontrollable fire, and we would have to ditch.



A Helo Night in th

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As an avid reader of *Approach*, I often see tales of jet jocks who bring aircraft aboard ships on the darkest of nights, low on fuel, while they experience vertigo. I never dreamed it could happen to a helo pilot, but I found that vertigo doesn't care whom it ambushes.

I was on a six-week counter-narcotics cruise in the Caribbean, preparing for an upcoming vacation weekend in Curacao when I was tasked to search for the bad guys on one of those dark, moonless nights.

I was almost ready for my HAC board, feeling salty, and flying with a HAC who was about to transfer out of the squadron. Considering our experience, I figured we could handle anything.

Midway through the flight, while descending, I started to feel the onset of vertigo. As briefed, I told the HAC, and we swapped controls as we descended through about 2,000 feet at 500 fpm. When we leveled off at 500 feet, I had already re-caged my gyros so that my head and my instruments matched up. The remainder of the flight was uneventful until we returned for final recovery and shutdown.

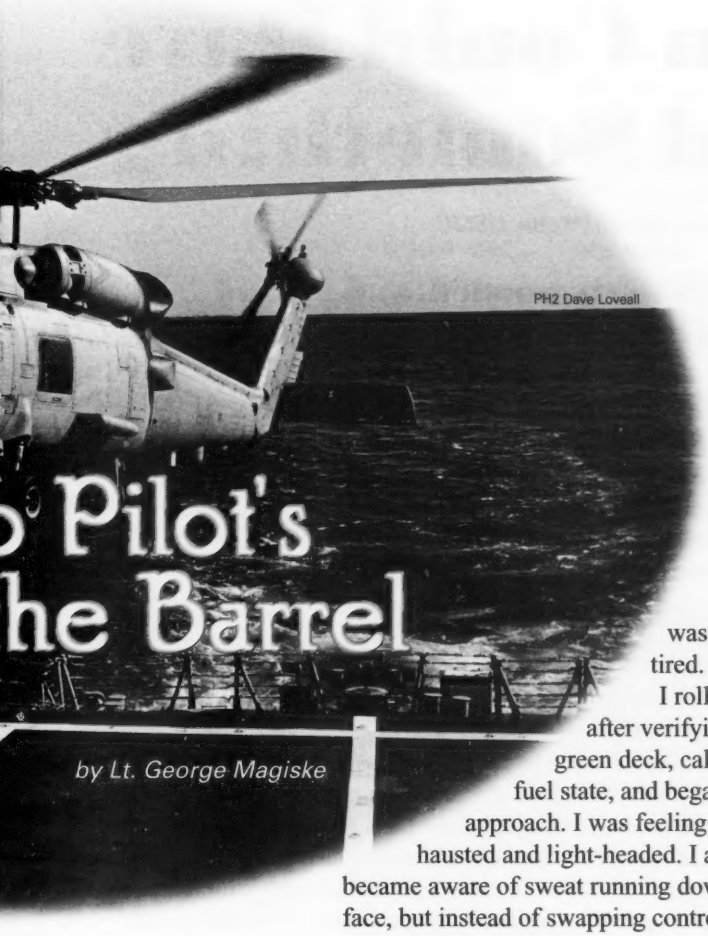
With flight quarters about to be called, we arrived overhead our ship with 1,000 pounds of fuel, more than enough to feel comfortable. I have always made it a point to be back with a little extra on these dark nights; our surface brethren are infamous for obtaining that famous "wind-hunting circle" qual.

We called for the numbers, and deck told us to stand by as the ship would be maneuvering for winds. Feeling confident that we had all the time in the world, especially with all that fuel, we decided to shoot a couple of practice approaches. The ship was maneuvering very slowly, so we made minimal adjustments on final. After 25 minutes of the ship circling for the wind, I lost count of the approaches. I was starting to get a little more concerned as the fuel gauge now read close to 600 pounds, which was our SOP for being on final approach to the ship.

Seeing that it was taking the ship so long to find the winds, we radioed that we were at minimum fuel. They soon replied that they were ready for recovery. We received a green deck and rolled final, calling our fuel state. My approach was fine until we crossed the stern. I realized that my closure rate was too fast.

I called a waveoff and quickly turned left, into the winds. Because I hadn't caught the closure rate sooner, I turned with a 30-degree bank, which was a little uncomfortable considering our SOP is to use standard-rate turns at night, and never to turn before reaching 300 feet.

Now we were on downwind, and I was feeling like I was earning my pay. The fuel gauge was moving into the red cubes, and I



PH2 Dave Loveall

o Pilot's he Barrel

by Lt. George Magiske

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was getting tired.

I rolled final after verifying a green deck, called our fuel state, and began the approach. I was feeling exhausted and light-headed. I also became aware of sweat running down my face, but instead of swapping controls, I let my can-do attitude get in the way. This was almost a costly mistake.

On short final, I got slow and countered with forward stick to increase my airspeed. As I did so, I lost altitude and went below the glidepath. I could see the SGSI switch from amber to red and pulled in collective to climb back to the glidepath. Now my airspeed and closure rate were fast, and as I tried to get it under control, we started to cross the ship's stern.

I pulled back on the cyclic and added collective to slow down. I was still closing from momentum and climbing from the attitude and power I added when I suddenly lost sight of the deck. Shifting my scan though the chin bubble, I saw we were still closing! At that moment, the HAC took the controls and pulled in an armpit-full of collective and added aft cyclic. It felt like we were at a 45-degree-plus attitude falling backwards, tail first! My only thought was, "This is it. I'm dead!"

I grabbed a reference point, located my HEED bottle just to make sure the valve was open, and prepared for the inevitable. Suddenly, I realized we weren't in the water, and I looked out the window and saw the ship below. Looking at the instruments, just to verify I was right, I saw we were climbing straight up through 300 feet.

The HAC had somehow managed to get us out of there and turned to port to wave off. The LSO called and asked what we were doing and what our fuel state was. I imagine the guy in the tower was just coming out from whatever he dove under as he saw us closing. I was soaked with sweat but realized we weren't through, yet.

I got on the instruments to back up the HAC. I knew it might be our last approach with the fuel gauge now reading close to 300 pounds. The HAC responded to deck's call for our fuel state with, "You better make sure the boat deck is manned and ready."

If we didn't get on the deck this time, we were going to consider ditching.

The HAC had some difficulty on final also. We continued to drift, as I had done. The closure rate was slower and comfortable, but our tail was well out to the right crossing the deck. The HAC corrected for our attitude and finally, we landed. I looked at the fuel gauge — it read 280 pounds.

I recognize my errors and now, I am cautious about vertigo, my ego, and the dangerous combination they can provide. ◄

Lt. Magiske flies with HSL-42.

Gilligan Could Have Learned Something

by Capt. B.E. Kuhn, USMC

The island was densely wooded, and we had to land on a small strip of beach exposed by the low tide.

What a deal! We were scheduled to fly two CH-46Es from our ship to the liberty port two days before the ship arrived. We had to deliver an advance party survey team to take care of any unsolved business. We were excited about arriving early, and we were glad to oblige any special requests, including taking the mail.

The map revealed that our flight was to be slightly more than two hours — half over land, half over water. Our crew of three departed the ship as Dash 2, with seven passengers and 800 pounds of mail.

After approximately one hour, we had flown over the island of Panai and were headed out over the water. Our section was about five miles from Panai when I noticed a change in the aft-transmission's temperature. It had risen to about 105 degrees C (110 C max allowable). It had been stable at 70 degrees C, and our crew chief went to the rear of the aircraft to inspect the area.

Being conservative, we decided to turn back toward Panai and investigate the problem before proceeding farther out to sea. We started NATOPS EPs for an imminent transmission failure as a precaution.

About 60 seconds later, the aft-transmission oil pressure began decaying from 55 psi toward 20 psi (minimum allowable). We considered this gauge a secondary indicator, and hoped that it was wrong. But that hope vanished as the crew chief determined the aft transmission was much warmer to the touch than normal. He continued to monitor the transmission while my copilot and I discussed landing options.

The first caution light to appear on the master-caution panel indicated low transmission-oil pressure, below 20 psi. Four seconds later, a chip light started flickering, becoming steady, indicating metallic chips in the transmission.

The aft-transmission oil temperature continued to increase, already having exceeded the maximum allowable 110 degrees C. We obviously had to land immediately and, in keeping with the consistency of our luck, there was no land close by. I couldn't believe I was facing the possibility of a water landing. The crew chief ensured our passengers were secure in their seats.

We had two options: ditch the aircraft in shallow water or continue about a mile to a small beach on a tiny island two miles off Panai. We were at approximately 10 feet AGL and 50 knots when we decided to head for the beach. The island was densely wooded, and we had to land on a small strip of beach exposed by the low tide. We concentrated on setting up a good approach. A waveoff was the last thing we needed.

After landing, our crew chief immediately got the passengers out while we made an emergency shutdown with APU power. After shutdown, the transmission seized.

Fortunately, we had a SATCOM radio and operator onboard our aircraft, and he notified the ship of our status. The ship told us to remain overnight with our crippled aircraft and prepare it for the maintenance recovery in the morning.

Although safe on deck, we discovered we were still in danger of losing our aircraft. Natives told us that the beach would be five feet under water by midnight. We tied the helicopter to large palm trees with several cargo straps. With our luck finally taking a turn for the better, the aircraft rested firmly on the hard-packed beach and was only submerged half-way up the stub wings at high tide.

The following morning's low tide allowed two aircraft carrying mechs and parts to land on the exposed reef. Racing the clock, the mechs changed the aft transmission, enabling us to test the aircraft and depart for an alternate airfield before the next sunset.

After they removed the aft transmission, the mechs could see a six-inch crack in the mix-box casing near the No. 2 engine's input pinion. The sprag-clutch assembly on the No. 2 side had frozen. Further inspection revealed the entire aft-transmission lubrication system had been contaminated with metal particles from disintegrating components. ◄

Capt. Kuhn flew with HMM-364.

Although safe on deck, we discovered we were still in danger of losing our aircraft.

I'm Getting Married in the But Get Me to the Boat

by Lt. Robert Cady

The weather was lousy, as it had been for four days...

I was getting married in four days. I had canceled one non-refundable ticket and purchased another for two days later. I had just dropped off my fiancee at the airport after one of those awesome "last minutes before marriage" battles. The next morning, I would head to the boat for initial A-4 CQ.

The brief was at 0530. I hadn't slept that night, of course, angry about things with my fiancee, the wasted airline ticket, and anxious about seeing the back of the ship from the A-4.

The weather was lousy, as it had been for four days: 8,000 overcast, two miles visibility with rain and thunderstorms. The next two or three days were supposed to be the same because of an easterly wave in the Gulf of Mexico.

We briefed and then began the slide. At noon, the SDO told us to go eat. We finally got the call at 1600. Mother's weather was 20 BKN 6F. We manned up. I was Dash 2. Launch and join-up went as briefed, and we pressed out toward the ship. Corpus Approach told us to switch Strike with a sweet lock.

"Roger, checking," lead replied.

The next call was, "Dash 2, do you have a lock on mom? Ours is sour."

"Affirmative," I replied.

"Sweet lock, switching," called the lead. We switched Strike, and as I relayed our position, we made our way to overhead-holding.

The boat had stayed in our area for two extra days because of the weather, but Friday, two days from now, was her absolute last day. The press was officially on.

Orbiting overhead, I gave the lead periodic reports since it was now overcast below. After an hour overhead, I was discouraged and ready to punt. It was past 1800, and I figured we would be RTB.

"Only two days to get this done and three until I get married," I thought.

"One-fifteen and flight, charlie," came the call. We were off and running. We pressed out of the stack to find our hole for descent. No need to dump; an hour in the stack had taken care of that. Lead looked for the 1,000 scattered part of the weather the ship was reporting, while I navigated to the initial; Dash 3 and Dash 4 were strictly along for the ride. The net result was "F-Troop in the break."

We broke out just as we crossed the stern, still heading 15 degrees off the given BRC. The Boss called for lead to break at the bow and depart. I timed 17 seconds and broke.

I immediately got vertigo. The view out of the canopy proved that. I had rolled and

Morning, on Time!

Rudy Llobet

"Only two days to get this done and three until I get married."

pulled as normal, but the AJB-3 and HSI read straight-and-level. Yes, I was partial panel. I rolled out and pulled up to stop losing altitude, IMC.

"Better stick to the gauges now," I thought. "OK, altitude is under control. Heading? There's downwind. Roll out and get VMC — down to 600 feet AGL. There's mom. There's abeam and time to turn. What's the AOA? Slow! Power!" I screamed to myself.

"At the 135, you're low. Keep the turn in," paddles called.

"Roger, 110 is standby attitude only."

"Hook down, 110, you're still low."

"Hmmm, what's the scan here?" I thought, my head still spinning as I locked onto the standby gyro and radalt to try to right myself.

"One-ten, wave off up the port side."

Full power, level wings and climb. I flew upwind. The weather was getting worse with the bottoms now right at 600 feet AGL. I flew at 550 feet and looked for my interval.

After two calls to Tower and four miles upwind, I turned, using the standby gyro and mag compass below the eyebrow panel. I had lost the CV because of the lowering visibility. At the abeam, I finally saw the ship and realized how wide I was. I started the turn and headed downhill.

Again paddles called, "You're low." Then he added, "Ease your turn," followed by, "Wave off, wave off. Try again."

After again struggling to find interval and abeam distance, I finally rolled into the groove and saw... the ball! A cell high this time, but a big yellow ball, nonetheless!

"Wave off, wave off, foul deck."

The Boss called, " One-ten, confirm state 3.2."

"One-ten, affirmative, 3.2."

"One-ten, minimum fuel. Signal divert. Pigeons 285 for 101. Clean up, hook up, contact Departure on button seven passing seven miles."

I cleaned up and headed out the BRC. At 10,000 feet MSL, I leveled off, glad for VFR and a chance to re-cage my head. Strike then called and requested that I orbit to wait for a lead-safe to take me back to Kingsville, which was now IFR.

Finally, I did something smart. Looking at the fuel gauge, which now read 2.6, I told Strike that I was minimum fuel and needed to press on. I received vectors from Houston Center, but when I checked in with

Back in the ready room, I was told my passes were no count...

Rudy Llobet

Approach, I didn't say anything about my fuel state since I was already set up for the straight-in.

Approach vectored me over the top of the field at 10,000 feet for sequencing into the GCA. Angry at myself, I announced my fuel status again and declared minimum fuel. What followed was an "expedited" turning descent back through the goo to VMC at two miles on final. I was now very tired of this aviation stuff and glad to see 8,000 feet of asphalt in front of me. The low-fuel light flickered as I touched down.

Back in the ready room, I was told my passes were no-count, and that I needed to be back tomorrow at the same time. The following day, the weather cleared a bit and I qualified without incident in 45 minutes. I flew to Washington D.C., the next morning.

What did I learn from this agonizing experience? First, I was not in the proper frame of mind to fly what up to that point was the most difficult flight of my career. Someone once told me to "be there" for every part of the flight, from brief to debrief. I was not entirely "there" during this flight. Flying is hard enough without the extra burden of a major shift in your personal life on top of it all.

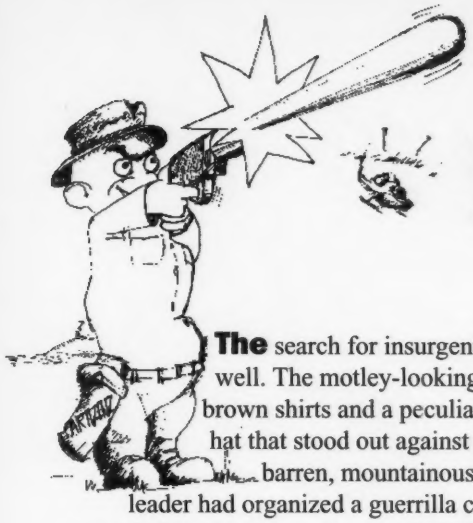
Second, brief the details each time. The TACAN problems turned out to be that lead had dialed in the wrong channel. Would this have made any difference? Probably not, but as any pilot knows, initial CQ is not the ideal place to have to ad lib. A true three-mile initial would have been comforting for my first look at the boat.

Third, know your personal limits and do not exceed them. The most dangerous portion of the whole flight was when I rolled off the 180 having just gone IMC with serious vertigo. At least, I should have asked for a lap around the pattern at 600 feet to kill the snakes in the cockpit and my head. The LSO later reported that from his vantage point, I appeared almost level with the rounddown when he waved me off. The problem was that I lost the big picture trying to hack the approach turn.

Fourth, and most importantly, anticipate; don't just react. For most of this experience, I was reacting to the plane, the controllers, or the weather. The only time I acted was when I decided not to wait for a lead-safe, who was 60 miles away. Unfortunately, I let the controllers vector me over the top of the airfield.

Remember, you sign for the jet. If the guys on the ground or the ship screw up, they may lose their jobs, but you and your crew will still be dead. Better to step on a few toes than to get in a situation you cannot escape from.◀

Lt. Cady flies with VS-37.



Food Fight!

by Maj. Peyton DeHart, USMCR

The search for insurgents was going well. The motley-looking partisans wore brown shirts and a peculiar kind of floppy hat that stood out against the backdrop of barren, mountainous terrain. Their leader had organized a guerrilla campaign, and our mission was to use our new AH-1Ws to escort a battalion of mechanized infantry that had been sent to quell the disturbance.

It was a scenario that fit any number of places in the world that we were likely to visit during our upcoming Westpac float. That's why we were practicing how to escort convoys through the familiar hills of Camp Pendleton's Pulgas Terf Area.

The bad guys were fairly easy to see. They held the high ground and were about even with us as we hovered in and amongst the ridge crests. We blew them away with simulated 20mm long before the battalion arrived in their Amtracs. From the bad guy's perspective, they probably shot us down with make-believe Stingers in the first 30 seconds after we arrived on station.

That's the problem with simulated battles conducted without benefit of MILES "laser tag" gear; it rapidly degenerates to a "I got you!" "No! I got you!" food fight on the radio. Besides, the ground bad guys are really there to attack the ground good guys. So, after five minutes we pilots were bored and had killed everyone we could by reciting the magic words, "Budda, budda." What to do next?

How about making the only real impact you can in pretend battles?

"Let's hover in front of the bad guys so they won't be able to move."

Of course, someone could have played chicken, by driving a HUMVEE toward my helicopter. But this war was a game, and we knew how to play so that no one got hurt.

We motored over to a group of insurgents and hovered, effectively blocking the only escape route. We threw up a lot of dust and dirt when we wind-blasted the guerrillas. A small piece of cloth whizzed past my nose. I was convinced that my downwash had kicked it up from the ground. Convinced that is, until Dash 2 said, "Lead, I think someone shot a pop-up flare at you."

It might have been a green-star cluster, maybe red. Whatever it was, it was a real pyrotechnic. As Sean Connery said in "The Untouchables," "Don't take a knife to a gunfight." I was outgunned by some anonymous grunt who wasn't smart enough to know that he could really hurt someone with those things. Well, it missed, so no harm done. We left before we drew more fire.

When we landed at home base, my wingman walked over to congratulate me. "You're pretty gutsy, man. I would have shut down out there."

"I'll debrief the platoon commander, and he can deliver the lecture," I said. "Besides, the guy was a lousy shot."

"What do you mean? That flare hit you before it went into the engine intake."

"Whaa ... ?!"

"Yeah. I saw you suck it up. Then it went out the exhaust, flew up and over your rotors, and came down again."

"Why didn't you say so in the first place?"

"I thought you knew!"

"I only saw the parachute as it went past my nose," I said.

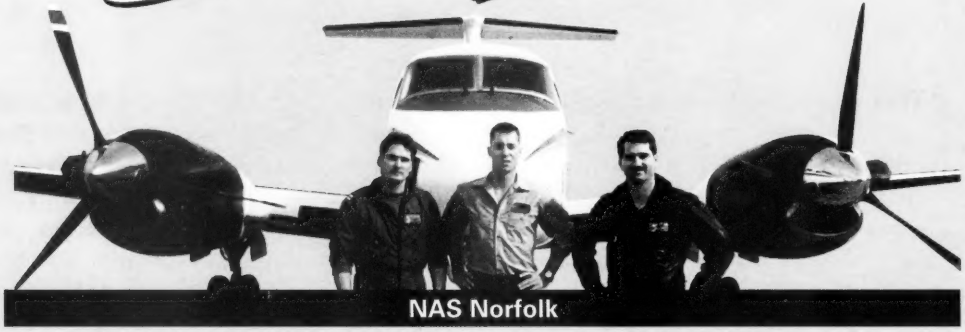
I couldn't believe that the flare had actually gone through my engine particle separator, but the evidence was plain on postflight. A patch of white nylon and a few small shroud lines were tangled around a bolt in the exhaust stack.

My wingman learned a lesson that day. If something happens to an aircraft in the flight, the observer should speak up… loudly, and at great length.

I got more educated, and learned two lessons. One, don't assume that young, fun-loving grunts are as concerned (or knowledgeable) about aviation safety as we pilots are. Two, never take an unarmed helicopter to a pyro fight. ◄

Maj. DeHart flies with HMLA-773. He is a regular contributor to *Approach*.

Bravo Zulu



Left to right: Lt. Alex Craddock, Mr. Dave Conn, and LCdr. Chris Spain.

LCdr. Chris Spain
Lt. Alex Craddock
NAS Norfolk
Mr. Dave Conn
Beech Aerospace Services, Inc. (BASI)

At the start of an FRS familiarization flight, Lt. Craddock (IP) and LCdr. Spain (student) found themselves facing a gear-up landing. Their UC-12B's landing-gear motor had caught fire, locking the gear inside the fuselage. Compounding the emergency, the manual-gear extension mechanism had frozen and would not engage.

Trouble for this crew had begun during rotation, after a series of touch-and-goes. A burning electrical odor came from the cabin while the landing-gear light flashed "in transit."

Leveling at 1,500 feet, LCdr. Spain went aft to inspect the compartment, while Lt. Craddock flew the aircraft back to NAS Norfolk.

Figuring that the gear had malfunctioned, the crew tried to manually extend the landing gear. Unfortunately, the manual-gear extension sprocket would not engage, because its operation depended on the failed gear motor turning. Later, inspectors found that parts of the gear motor had arc-welded together.

The crew searched for other options. They called the Beechcraft maintenance office and spoke to Mr. Conn, who suggested an inflight repair. While Lt. Craddock flew the plane, relaying the ground instructions from BASI, LCdr. Spain removed the C-12's floor boards and located the manual gear assembly. LCdr. Spain wedged the aircraft-preflight screwdriver against the sprocket while Lt. Craddock tried to lower the gear manually. After several attempts and much encouragement from BASI, the welds inside the jammed gear motor broke free and the gear dropped. Lt. Craddock then landed.

Left to right: Cdr. Joe Flynn, Lt. Igbal Khan, Lt. Chris Nerney and Lt. Dave Brown.

Cdr. Joe Flynn
Lt. Igbal Khan
Lt. Chris Nerney
Lt. Dave Brown

The crew of Zapper 623 was flying a section low-level training mission at 1,500 feet AGL over Sicily. Over a turn point, Lt. Brown (pilot) tried to follow his lead in a tac turn when his stick wouldn't move. He

reported the binding to his crew and lead as he began climbing.

In the climb, the Prowler began a slow, uncommanded roll to the left, which reached 60 degrees AOB before Lt. Brown could force the stick over to level the wings.

The aircraft then started rolling right. Lt. Brown could only counter the movement with what he estimated to be 50 pounds of pressure. The EA-6B required two hands on the control stick, necessitating throttle adjustments with quick hand movements.

Two minutes later, both combined-hydraulic pumps dropped to zero, requiring ever greater force to maintain controlled flight. The pilot could turn the aircraft to the right only by releasing a small amount of stick pressure and using the left rudder.

Realizing that they could not return to the ship, the crew decided to divert to NAS Sigonella. Squawking emergency, they headed directly for Sigonella, as they did the checklists.

Arriving overhead the field, the crew lowered the flaps, slats, and landing gear by emergency methods, and set up for a straight-in visual approach. They could maintain control, although somewhat erratically, and made a short-field arrested landing.

Postflight inspection revealed a catastrophic failure of the port flaperon actuator, which caused the nearly total failure of the hydraulics and restricted the flight controls.

BZs require an endorsement from the nominating squadron's CO *and* the appropriate CAG, wing commander, or MAG commander. In the case of helo dets, the CO of the ship will suffice. A 5-by-7-inch photo of the crew by a squadron aircraft should also accompany the BZ nomination. Please include a squadron telephone number so that we can call with questions.

Standing: Cpl. William Fine, SSgt. Stacey Crawford, Capt. Carter Brandenburg, GySgt. Manny Gutierrez and Capt. Clint Alberts. Kneeling: LCpl. Scott Forbes and Cpl. Colin Bravi.

Capt. Carter Brandenburg, USMC
Capt. Clint Alberts, USMC
GySgt. Manny Gutierrez, USMC
SSgt. Stacey Crawford, USMC
Cpl. William Fine, USMC
Cpl. Colin Bravi, USMC
LCpl. Scott Forbes, USMC

The crew of Slimjim 110 was part of a squadron detachment supporting CAX 3-95 at Twentynine Palms Expeditionary Airfield. During a fixed-wing aerial refueling mission, their KC-130 developed a massive fuel leak in the left wing that covered the entire port wing. The crew couldn't stop it. They decided that the No. 1 and No. 2 engines had to be secured because the leaking fuel was too close to them.

After preparing for landing, the crew secured the two engines. The aircraft now had no utility hydraulic system to supply power for nosewheel steering, anti-skid braking, and for extending and retracting the landing gear and flaps.

Assisted by Capt. Alberts (copilot) and the other crew members, Capt. Brandenburg (AC) landed at the expeditionary airfield.

Bravo Zulu

LCpl. Brent Daniels
MALS-13

Story and photo by Sgt.A.C. Holliman

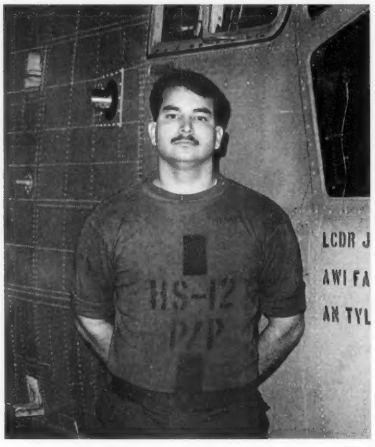
LCpl. Daniels, a plane captain in VMA-231, was refueling an AV-8B when the refueler shut down. Another aircraft near the tree line, several hundred yards away, had burst into flames.

"As I approached the aircraft my first thought was, where's the pilot?" said LCpl. Daniels. Once at the aircraft, he saw the pilot was still alive and conscious. The pilot told LCpl. Daniels his leg was broken and trapped.

The Crash, Fire, and Rescue team arrived, but there was so much noise and confusion they didn't notice the corporal at the left side of the plane; the right wing of the Harrier was missing. LCpl. Daniels saw the side panel of the cockpit was ripped and burning. The pilot's leg was still strapped in. The only way to get the pilot out would be from atop the aircraft.

Despite the flames and smoke, he climbed up the left side of the aircraft and shut it down. He wanted to hurry, because the pilot was in excruciating pain. While he was on top, an ambulance arrived. LCpl. Daniels unhooked the pilot; they were both soaked with fire-extinguishing foam, which made them and the aircraft very slippery. LCpl. Daniels managed to lift the pilot by grasping him under the arms. He and another Marine placed the pilot on a stretcher and carefully carried him down the left wing. Then, LCpl. Daniels climbed back on the aircraft to safe the ejection seat. "I never thought about the possibility of the seat going off until afterward," he said.

When asked what motivated him to react the way he did, he credited it to his training and experience as a Harrier plane captain. He received the Navy and Marine Corps Medal, for heroism.



ADAN Alex McNatt
HS-12

by ADC(AW) Ken Rettschlag

Aboard USS *Independence* in the Indian Ocean, one of our helos started leaking fuel. After several days, we found it was the center fuel cell. We had to repair the leak; the bladder was NIS.

Work resumed after purging and a sniff check, but we couldn't find the leak. We closed all the openings, injected air into the bladder, soaped it down, and everyone looked for bubbles. Still nothing. As the night wore on, ADAN McNatt had an idea. We took the bladder inside the shop, turned out the lights and placed a light inside the bladder. Then we called on one of our pilots to look at the bladder through a set of NVGs (night vision goggles).

The pilot saw a dim light coming through a small hole in the bladder. We patched and reinstalled the fuel cell and returned the aircraft to operational status. Airman McNatt's idea earned him a letter of commendation and recognition as an innovative troubleshooter.

Chief Rettschlag is HS-12's aircraft division chief.

Cpl. John W. Thomas
VMA-542

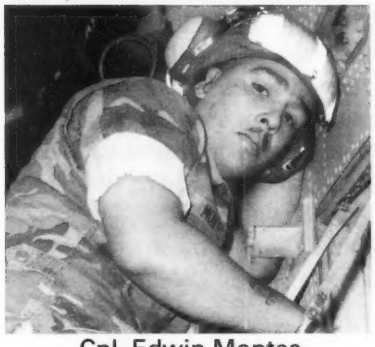
Cpl. Thomas, an avionics technician, was helping Marine Corps engineers troubleshoot the multipurpose color display of a Harrier II+ aircraft. While the engineers struggled to find the cause of the problem, Cpl. Thomas took a different route in the troubleshooting process and found a damaged wire bundle along an airframe wall.

Confident his discovery was the root of the problem, he briefed the engineers on his findings. His suspicions proved correct. A maintenance problem in a critical system, which had plagued this aircraft since its delivery to the squadron, was repaired. The aircraft returned to full-mission-capable flight status.

HM3(NAC) Darrel Timpa
NAS Patuxent River

While leaving Search and Rescue division's spaces for his car, HM3 Timpa, an inflight-medical technician for NAS Patuxent River, noticed the port MLG-strut cowling of a tenant command's UH-60 wasn't fastened as the helo taxied from the ramp.

HM3 Timpa immediately warned the taxi director who stopped the helicopter and told the pilots. The cowling had vibrated loose and was not in the taxi director's view. The director fastened the cowling and taxied the helicopter without further incident.



Cpl. Edwin Montes
HMT-204

Cpl. Montes found a critical defect in a CH-46E aft-transmission component. During an installation inspection he found a pitted and corroded garlock seal on a replacement aft transmission for a CH-46E. Further inspection by QA not only confirmed his observation, but deemed the entire transmission was unserviceable.

Depot level maintenance found more corrosion on the upper, middle and lower case housing. The corrosion measured .040 to .050 inches; if it had gone unnoticed, we could have lost the aircraft.

Sgt. Alfred Santa Cruz
HMLA-267

Sgt. Santa Cruz was doing routine maintenance on an AH-1W that had just undergone major maintenance and inspection. While working in the flight-control servo compartment, he noticed the TACAN co-axial cable had been improperly routed through the hydraulic lines leading to the left lateral servo.

The co-axial cable was routed in such a manner that the controls could not have responded to inputs. This interference could have caused the flight controls to bind or rupture a hydraulic line. Sgt. Santa Cruz's discovery prevented a possible mishap.

AMH2 Richard Cornelius
AD3 Paul Freiders (Right)
HSL-34

While doing a final walk-around inspection of a Greenchecker SH-2F, AD3 Freiders noticed an unfamiliar sound coming from the area of the tail-rotordrive-shaft. Directing the plane captain to hold the aircraft, he left to get a QAR to help diagnose the problem.

The QAR, AMH2 Cornelius, directed the pilots to shut down the aircraft. Upon shutdown, they found one of the tail-rotor driveshaft couplings was missing a grease seal. Had the aircraft flown without the seal, all the grease would have leaked out and caused the coupling to fail. The resulting loss of tail-rotor thrust could have caused an aircraft mishap.

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Singed Cobra

The excitement lasted five minutes; the lessons learned will last a career.

by ABHC(AW) J. Wingerter
and
AFCM(AW/SW) J.T. Francis

Fighting a fire while rotors are turning is a condition we hadn't trained for.

A Marine AH-1W Cobra was turning up with rotors engaged on spot 2 when smoke began to pour from the top of the engines and transmission area. That isn't unusual for aircraft with a lot of recent maintenance. Almost as fast as the smoke appeared — for reasons yet to be determined — we had a rotor-brake fire.

Flight quarters started at 1100. On the third launch, an FCF on spot 2 started engines. That's when the day went to hell in a handbasket. The Air Boss and Mini were in primary; maybe they felt it coming.

No matter how much you train, nothing can mitigate the shock of a real fire. Our crew had been to the right schools and held drills, but the shock was still there. The P-16 (fire-fighting vehicle) crew responded well. Unfortunately, a solenoid failed in the P-16's AFFF system. Fortunately, someone had already broken out an AFFF hose and energized the HICAP system.

By now, everyone could see the Cobra was on fire. A hose team in front of the bird started pumping AFFF on the fire. The pilot shut down the engines and left the aircraft, but the rotors continued to turn and hamper the firefighters.

Quickly settling on a solution, a hose team crawled under the rotor arc on their hands and knees, dragging the hose behind them. They applied the agent to the base of the fire and put it out. Less then five minutes had elapsed from initial response to setting the reflash watch. All who were there know that five minutes can be a very long time.

Did all the players respond correctly? Could the ship operate and fight the casualty simultaneously if need be? The P-16 failed because it's not operated often enough. Unlike shore stations, ships don't test-fire their gear every day.

In training flight-deck crews, we don't stress the hazards of turning rotors and the effect of rotor wash and high winds on AFFF and PKP. We failed to teach our young Sailors how to enter and leave the rotor arc of an unmanned, turning aircraft.

There are more people on the flight deck than just the ABs. The Marines would be a great asset in a large fire. The bridge and engineering teams are trained to do their parts; we need to improve our coordination with them. While course, speed, communication with DC central, and manning the Hi-Cap stations were not factors in this fire, they could have been had the fire gotten out of control. ◄

Master Chief Francis and Chief Wingerter are stationed aboard USS *Tripoli*.

Doing the Can-Can

AE1(AW) Dean P. Savas

After returning to homeport from a flawless REFTRA and work-up cruise, our LAMPS Mk-III maintenance crews were finishing up the quals they'd need for the upcoming deployment. Some of us even took leave to square away loose ends.

Those of us lucky enough to remain at the squadron found it very hard to relax; the only asset ready to fly was our aircraft. There was no rest for the weary. As the det's LPO, I looked forward to the deployment. Being underway and settling into a routine would make my job easier.

Three weeks later, we picked up right where we had left off with the workups: one flight quarters after another, with plenty of flight hours left until the end of the quarter. In an effort to ease the workload on my plane captains, I used my PC quals to do some of the daily and turnaround inspections myself.

I was also a CDQAR and responsible for releasing the aircraft for flight. Keeping that hat separate from my det-LPO job can be overwhelming at times. Once, I got caught up in that process.

Our op tempo had been pretty high, so I let my shift go to chow. I thought I'd let them enjoy their meal while I did the turnaround and got the helo ready for the next event. I logged out my PC tools, a rag and a can of VVL-800. I decided this would be an excellent time to do a post-flight lube of the main-rotor head and engine bays; the next event was almost three hours away.I'd completed the turnaround and was about half finished with No. 1 engine when my senior chief said, "The launch time has been moved up to the whenever-we-are-ready hour." I handed the tools and rag down to the SCPO and laid the can of VVL-800 in the low-point drain of the engine bay. Then I thought, "This is a good place to start my pre-launch FOD inspection."

The only asset ready to fly was our aircraft. Getting underway and settling into a routine would make my job easier.

After closing the engine bay, I worked my way around the rest of the aircraft. When I went back to the shop to do the paper work, the SCPO, who was also a CDQAR, checked in my tools and rag.

I knew something was missing but couldn't put my finger on it until I heard the sound of the engines starting up. I was in the shop when the ship set flight quarters. I raced to the phone, which we always man for flight quarters, and yelled, "LSO, shop. Possible FOD No. 1 engine. Shut down ASAP."

I slipped on my float coat and cranial, and got permission from the LSE to climb up to the engine bay. I opened the cowling and there it was; a can of VVL-800 right where I'd left it. I knew exactly what I'd done wrong, and with the training I'd received, I also knew exactly what I should have done. I was very embarrassed and disappointed at my mistake.

This happened because I logged out the tools and rag, but not the hazmat. If I had logged it out, the SCPO would have asked me where the can was. I never should have combined procedures to try to save time. I've read message boards and said, "I can't believe they did that." I confirmed that when we rush a job or shortcut procedures, strange things happen. ◄

Petty Officer Savas of HSL-42 was deployed to the Red Sea aboard USS *Leyte Gulf* when this incident occurred.

I knew something was missing but couldn't put my finger on it ...

COLD-START FLY-OFF

by Lt. F.E. Redling

"There I was at 500 feet" usually marks the prelude to a helo pilot's sea story, but this one began long before the flight.

Everyone is still in the hard-work mode the morning of the fly-off, and day check has just relieved night check. Fly-offs are tough because night check never gets any sleep and day check has to contend with off-load logistics. Pressure grows by the hour; everything must launch.

We are flying one bird with its tail-rotor linkage approaching wear-limits. We decide to change the bellcrank and attaching parts. Doesn't look like a problem; just normal maintenance for a routine fix. Maintenance control asks the shop how long the repair would take?

"What do you mean 'four hours?' You've got two," says the crafty old maintenance chief, knowing it will probably take three.

"OK, Chief, I'll put two men on the job instead of one." The shop supervisor pads his estimate by an hour for a fudge factor: "I'll still need three hours to do it right."

"OK, but hurry; I don't want the old man and ops breathing down my neck." Does that have a familiar ring?

Two hard-chargers, a metalsmith and a mech, are tasked to do the job. Both are 4.0 Sailors; they will never complain that the temperature on the roof is 24 degrees F. It might take a little longer to do the job, but after all, they've done this repair before. They won't be hampered this time by having to haul a MIMs up to a windy deck.

The two Sailors finish in two-and-a-half hours, which makes everyone happy. The CDI asks them if they had any trouble and gets a firm "No!" so he takes only a quick look. "Man, it's cold up here!" QA also takes a quick look.

The star of QA looks at it, so I know it's good to test and go, the latter being the operative word. "Preflight's done, systems check good, we're cleared to launch. Brrr, let's go so we can light off the heater," I said as the warmth from the ready room left my anxious body.

The flight goes fine until we enter hover while landing for gas on the East Coast. The cockpit suddenly gets as hot as a stolen watch. The aircraft begins rotating to the right. I pushed the left pedal until my leg hurts, but it doesn't help. "Shape up boys! NATOPS!" the voice of my old flight instructor screams in my head. We land safely but hard after several doughnuts.

Investigation revealed that the mech and metalsmith had installed a bolt that was too long; the extra length restricted our range of tail-rotor authority.

We can argue who caused the pressure to be felt, but we can't condone shortcuts. No MIMs and using the wrong hardware are both factors here, but did they cause the problem? Safe maintenance takes time and sometimes operational commitments can't be met. Maintenance managers must consider all factors, such as get-home-itis and cold weather, when assigning jobs. ◄

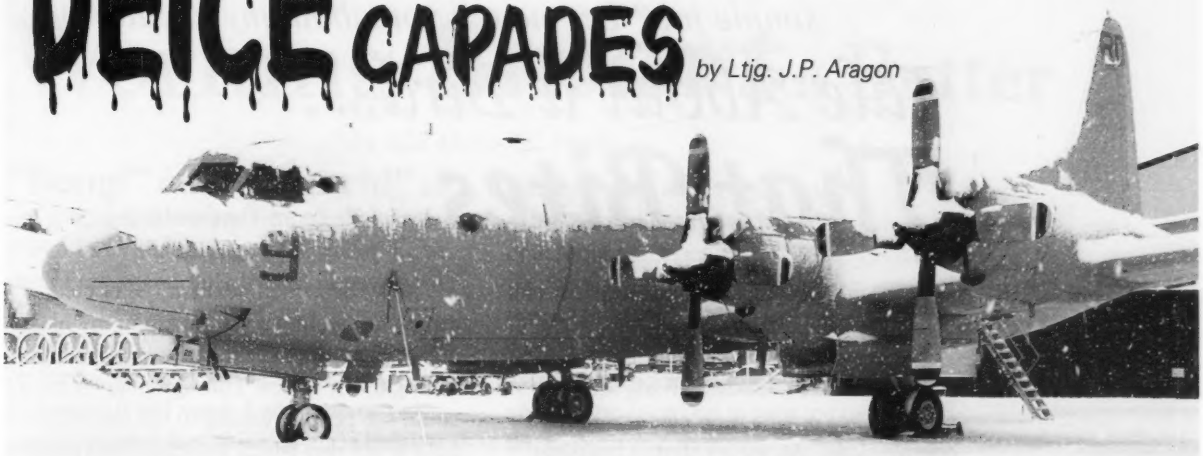
Lt. Redling flies with HS-7.

When maintenance has to be done in bad weather, the job is going to take longer.

Maj. Joe Doyle

DEICE CAPADES

by Ltjg. J.P. Aragon



Ice is nice — for ice skating and cold drinks, but it's not something you want coating your aircraft on a flight.

Operations ordered maintenance to deice a C-12 on a dark and cold night. The sky was over-cast with visibility a mile-and-a-half in snow showers. The temperature was minus 1 degree C (30°F).

The linemen fired up a Trump truck to heat the deicing fluid. Once the truck was ready to go, the deice crew ventured out into the storm to begin their task. They'd never "shot" an aircraft. They'd attended an abbreviated course in aircraft deicing three months earlier, and a refresher course conducted locally.

Under the direction of their equally inexperienced supervisor, the line crew shot the C-12, then watched the bird taxi for takeoff. As they approached the hold-short, the pilots looked out their windows and saw snow and ice accumulating on the wings. The time from deicing to taxi had only been a few minutes, so the deice fluid should have prevented the buildup. The deicing fluid had frozen and formed a one-eighth-inch ice coating over the flight-control surfaces. The aircrew wisely canceled their flight. If the aircrew had tried to takeoff, they could have had controllability problems and lost the aircraft.

Investigation found that the supervisor had told the deice crew to use a ratio of 15-percent ADF to water, *regardless of the outside air temperature.* As a result, the line crew had used an incorrect ratio.

We learned three lessons from this incident:

•First, be sure your maintenance personnel are fully trained to do their jobs.

•Next, if you have doubts, stop and get your questions answered. In this case, one of the linemen had heard scuttlebutt that the mix for deicing was 25- to 30-percent ADF to water, but he didn't check it out. He had doubts about what was taking place, but never questioned his supervisor for fear of reprimand. When it comes to safety, don't be intimidated to the point you won't question authority.

•The last one is for pilots and equipment operators: Know your machine. The pilots of the C-12, like many pilots, didn't know what ADF mix to use on their aircraft. When you have to deal with an unfamiliar situation, make sure your solution is correct. ◄

Lt. Aragon flies with VP-47.

To this day, I get the willies stringing lights on a Christmas tree. Why am I so nervous about such a simple job? Let me tell you about my cheater box.

Tale About a Bird... That Bites

by AEAN Kenny Ray VanHook

Our SH-60B helicopter had returned from its morning mission, and the weather was getting rough. Half my shipmates were already walking around with patches behind their ears and pale complexions. As waves started breaking over the flight deck, we knew it was time to bed our bird down in the hangar.

We were preparing to hangar her when a wave struck the forward starboard quarter and sent saltwater down the intakes. After we had washed the exterior, a HAC strapped in to rinse the engines out with fresh water. We were again ready to try to move the aircraft — with the intake plugs installed this time.

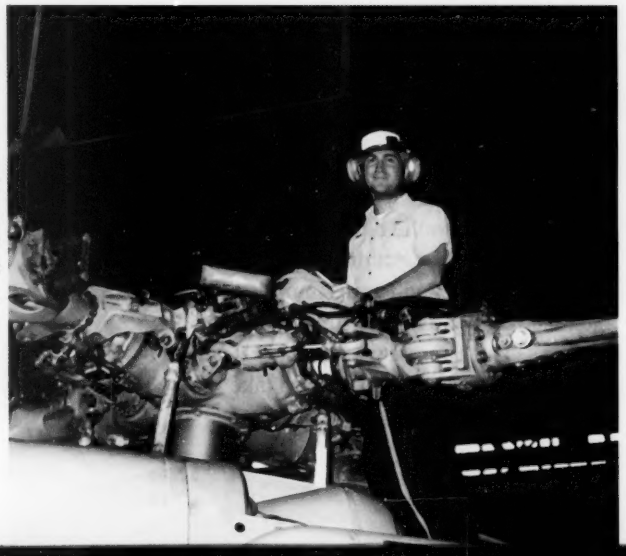
Because the helo's automatic blade-fold system hadn't been working correctly, I grabbed the spread-and-fold (cheater) box and my cranial and headed for the rotor head. The ship continued to rock and roll, so I strapped into a gunner's belt attached to the rotor-head eyelets. When I found I didn't have enough slack to position the cheater box correctly, I gave the power line a slight tug.

What happened next isn't very clear. I remember feeling a sharp pain in my hands and arms, dropping the cheater box, and falling to my knees. Through many stars, I could see people rushing to the top of the helo to get me, which indicated that something bad had happened.

Next came a ride to a CV to make sure my ticker was keeping the correct time. During the flight, I reflected on a few things. How could I have forgotten to put on the insulated gloves that I use for tasks like that last one? I know better than to let a commotion distract me. It's a good thing I strapped into the gunner's belt. Without it, I would have fallen off the aircraft and suffered even more dents in my head than the ones my division officer and LPO put there.

Investigators discovered a wire inside the Cannon plug on the cheater box touching the inside shell of the plug. As a result, I had been been bitten by 115 VAC. ◄

AEAN VanHook is assigned to HSL-37.



The author, holds a cheater box (manual blade-fold control) atop an SH-60B. You use the cheater when the automatic blade-fold system doesn't work.

Working Hard is Good, but Working ***Smart*** is Better

by AD3 Michael C. Weise

"Bang!" and "Crunch!" are not sounds you want to hear around aircraft. When I saw the damage a SE trailer did to one of my squadron's H-60s, I knew it was going to be a bad night.

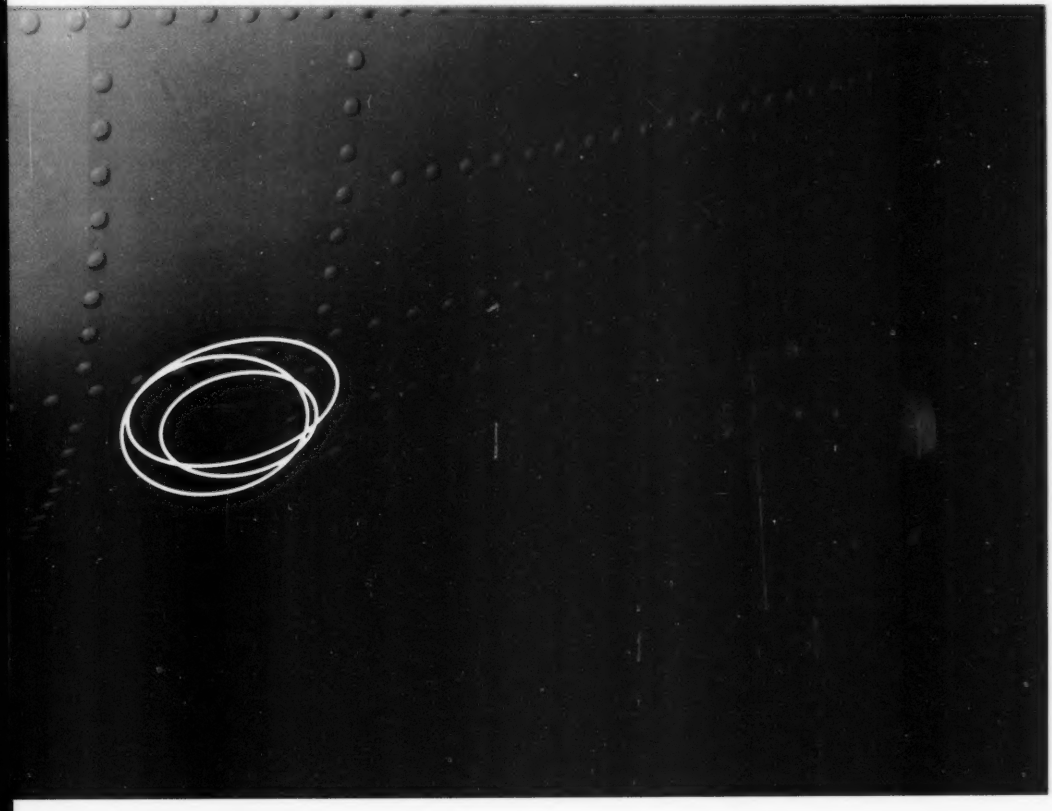
I'd been moving a large trailer forward on the hangar deck, dodging and weaving past aircraft as I went. I was rushing because I needed this trailer in place quickly for phase maintenance.

As I approached my destination, an HH-60H, I tried to stop. I misjudged both the momentum of the trailer and the distance to the helicopter. The trailer's leading edge punched a small hole in the aircraft's side and made a three-inch crack in the skin. My popularity in the maintenance department dropped fast.

Fortunately, I didn't hurt anyone and the aircraft was repaired in a couple of days. I realized later I could have easily avoided the accident just by slowing down and getting someone to help me position the trailer.

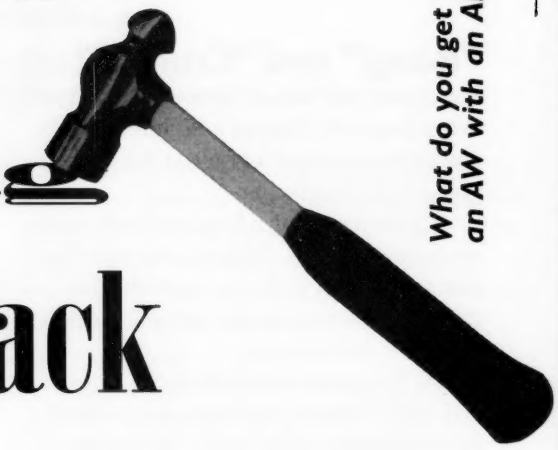
I'd been working too hard and too fast, trying to get the job done quickly instead of working smart. It's great to look good and be appreciated; it's even better not to look like a dork. Avoid shortcuts; you'll save time, money and a whole lot of grief. ◄

Petty Officer Weise is in HS-2.



One man does not a team make — get help when you have to move SE close to aircraft.

Battered Bearing Strikes Back



What do you get when you cross an AW with an AD? A Medevac!

...and on the next whack, a chunk of metal got airborne and skewered his forearm.

by Lt. Tom Griffin

As maintenance officer of a two-plane detachment, I constantly remind the troops about hazards and precautions. "Wear your cranial!" "Shouldn't you wear goggles for that?" "Do it fast, but do it safe." I do it to protect them.

I am partly being selfish. With limited personnel to maintain two aircraft at a fast tempo, every det member is vital. It would be rough to lose even one. The troops often work in other rates to support the team. Even though I stress safety, I forgot to brief one group of motivated individuals... the AWs (aviation-weapons personnel).

During a gear-box change, an AW3 who always contributes to the maintenance effort helped an ADAN remove components from the main rotor-head. Satisfied with progress in the hangar, I decided to wade through my never-ending paperwork. The next thing I knew, the safety PO was telling me the AW3 had an accident and was in sickbay. I went there and found the AW3 on the examining table with a blood-soaked bandage on his left arm. A chunk of metal had broken off and embedded itself deep in his left forearm when he tried beating on a bearing. Both wrench turners had been trying to remove the bearing. The MIM directs one person to do the job; besides, only one extraction tool was available.

The AW3 used a ballpeen hammer to loosen the stubborn bearing. He splintered it, and on the next whack, a chunk of metal got airborne and skewered his forearm.

Now, granted this wasn't the most efficient way to loosen a bearing; yet to the AW3, it seemed appropriate. Had he wrapped a piece of cloth around the area before using the hammer, it might have worked. Then again, had I stressed maintenance safety and SOP to the AWs as I had to the maintainers, the accident might have been avoided.

A frigate isn't equipped with a high-tech medical lab, and the HM1 couldn't remove the metal. He sent the patient to the theater naval hospital. The doctors removed the metal, but although the AW3 returned to the ship in three days, he couldn't fly for another week. He was fortunate not to lose the use of his left hand. ➤

Lt. Griffin is maintenance officer for Det 5 of HSL-48.

BY DAWN'S EARLY LIGHT

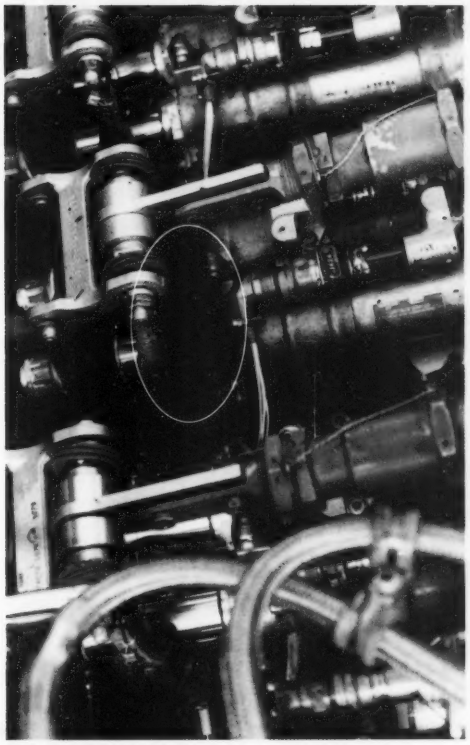
by Lt. Carl W. Deputy

0630

Flight Quarters for a counter-drug patrol in the Eastern Pacific at dawn. All tools are accounted for, the bird is FOD checked and certified safe for flight. The HAC reviews old gripes and signs for the helo. We preflight and go.

1030

The aircraft recovers and the HAC shuts the helo down. We won't launch again until evening. The PC finds a flashlight in No. 2 engine compartment during his turnaround inspection.



A six-inch length of metal pipe, dropped in the right place, could ruin a flight.

How? Nobody checked the pilot for FOD. He liked to carry a mini-mag light in a holster velcroed to the waist strap of his flight suit. He never gave a second thought to the objects (such as patches) velcroed to him, and never considered anything on him FOD except the SAR pin on his name tag.

Preflighting the top of the helo requires cranial protection in the event of a fall. Pilots use their helmets for this; they make good sound attenuators too. While crawling under a blade to slide onto the engine's work platform, the belt loop on the pilot's flashlight holster caught on the cowling. The velcro ripped open, and the whole works slid into the back of the engine compartment. Since the pilot preflighted this area on his stomach before sliding in, he didn't look at it again on his way out.

No one heard the velcro rip open, no flight gear turned up missing, and all tools were accounted for in the ADB. Because it was getting light with the dawn, the pilot never missed his flashlight as he strapped in. The flashlight rode in the engine compartment the whole flight. There are many places where the belt loop could have deposited the FOD.

The lesson here for pilots is an old one for maintainers: Personal tools have no business near an aircraft. There is no accountability except for your memory, which one day will falter when things get busy. A case of the PC's favorite beverage is a small price to pay for a lack of insight.

PCs, eyeball your aircrews for FOD. They'll be glad you did. ◄

Lt. Deputy is the OinC of HSL-42's Det 4 in USS *Samuel B. Roberts.*

Personal tools have no business near an aircraft.

by AMSC Russel A. Stevens

Are You Sure...?

"'Someone told me it'ill work."

"I've heard of someone else doing it."

"They taught us that in school."

"I'm sure it will fit!"

These too-common phrases are never reason enough to ignore the MIMs. In one instance, relying on those reasons scared the daylights out of an entire det. We were in the North Red Sea during a LAMPS Mk-III det aboard a Perry-class frigate. Our small boy was steaming independently, so the only parts we had were in the standard pack-up kit.

During a D-phase inspection, my lead AD told me one of two port-side blade spindles on the main rotor failed inspection and had to be replaced. Knowing our parts were limited, I sent him to supply with a 1348-6 and kept my fingers crossed. He heard the dreaded words, "out of stock," from the SK1.

Being an enterprising young mech, and relying on *what he knew would work, what he'd heard someone else had done, and what he was sure they'd said in FRAMP,* he substituted the part number.

Helicopters are not tolerant of guesswork; they tend to get violent when you test them or not work at all. This HSL-44 mech is putting the finishing touches on a rotor head — using the right parts.

Granted it wasn't the best move, but some logic actually did go into the substitution: The bad spindle was coming off the portside. He substituted the part number of the second port spindle (it was in stock) "because the blade would still be able to fold in the correct direction."

The mech came back with a new spindle and a smile. I was relieved that we wouldn't have to order it and go NMCS until we received it.

Installation went OK. The crew had a hard time getting the pitch-control rod to line up, but the mech assured me it was because the blades were folded. A little muscle later, the blade was hung and we were ready to test it.

The ground run didn't go quite as well as the installation; the helo bucked like an out-of-control mechanical bull. The aircrew, with wide eyes and pale faces, immediately shut down and stopped the head. The O-in-C of the det came out of the hangar and joined the MO, the AD2 and me on the flight deck.

We stared at the blades trying to figure out what had gone wrong before turning to the mech for an explanation. He told us what had happened at supply and why he'd substituted the part number. It sounded like a reasonable substitution. But after checking into the pubs, and making a quick INMARSAT call to a Sikorsky tech rep, we learned that *all* four spindles are different. Very slightly, but enough to make a big difference at high speed.

We learned some valuable lessons that day. The aircrew learned that shutting down immediately when a problem arises will prevent damage, and is usually the safest course of action. The AD2 learned not to rely on scuttlebutt because pubs change daily. Even if you did a similar job yesterday, the procedure or part numbers may have changed. As the det SCPO, I learned to do a reality check on part-number substitutions not listed in the IPB.

No one was hurt, and nothing was damaged other than the AD2's pride. He just knew it would fit and it looked good to me. We both quickly changed our minds. ◄

Senior Chief Stevens is the Det 7 SCPO for HSL-44 in USS *Stephen W. Groves*.

The flight deck of an amphibious assault ship is hairy even for people who have experienced "The Navy's Adventure."

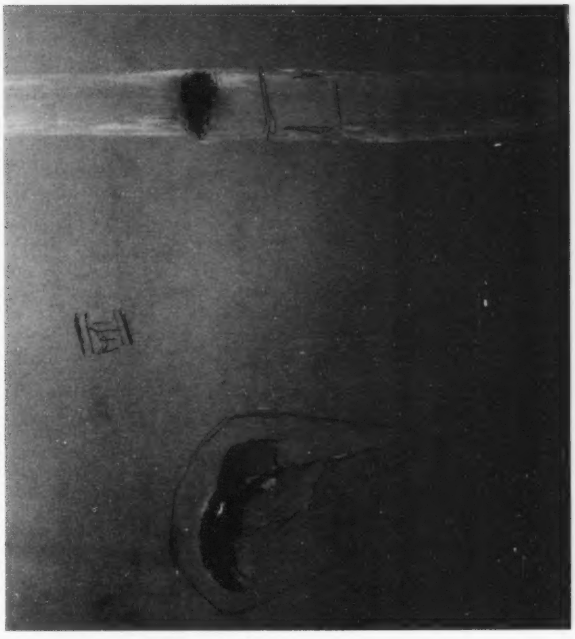
P-16 *Thought* It Could

by AD1(AW) A. Ramirez

The heat was on to launch in the Adriatic Sea. The deck was stacked when the call came for the P-16 fire-fighting vehicle to report aft of the flight-deck elevator for an auxiliary-power unit turn up.

The P-16 had to pass between flight deck control and a CH-46 spotted directly in front of control to get to the power unit. No safety directors were there to lead the eager driver through the narrow passage, and he misjudged the clearance.

There wasn't room enough to pass. A 2.5-inch nursing adapter on the starboard side of the P-16 stuck out of the side of the unit approximately 8 inches — not in the driver's line of sight. The ship's water and AFFF stations are fitted with 1.5-inch fittings, hence the adapter.



KEERUNCH!

The ruptured CH-46 sponson.

Peter Mersky

The P-16 screeched along the CH-46 leaving a two-foot scratch and punching a 4-by-3 inch rupture in the port sponson. The damage to the P-16 was limited to a broken ball-valve, and the nursing adapter was ripped off the vehicle. No one was injured. Both the P-16 and the aircraft were repaired quickly.

To make sure this incident would not be repeated, AIMD QA recommended the adapter be relocated on top of the unit. Of course, it also helps to post lookouts when navigating tight fits around aircraft.◄

Petty Officer Ramirez is an QA supervisor and safety petty officer for AIMD in USS *Nassau*.

...preventing and detecting FOD is a full time job for EVERYONE ABOARD.

Launch the Vertical Ladder!

by Lt. Tim Collins

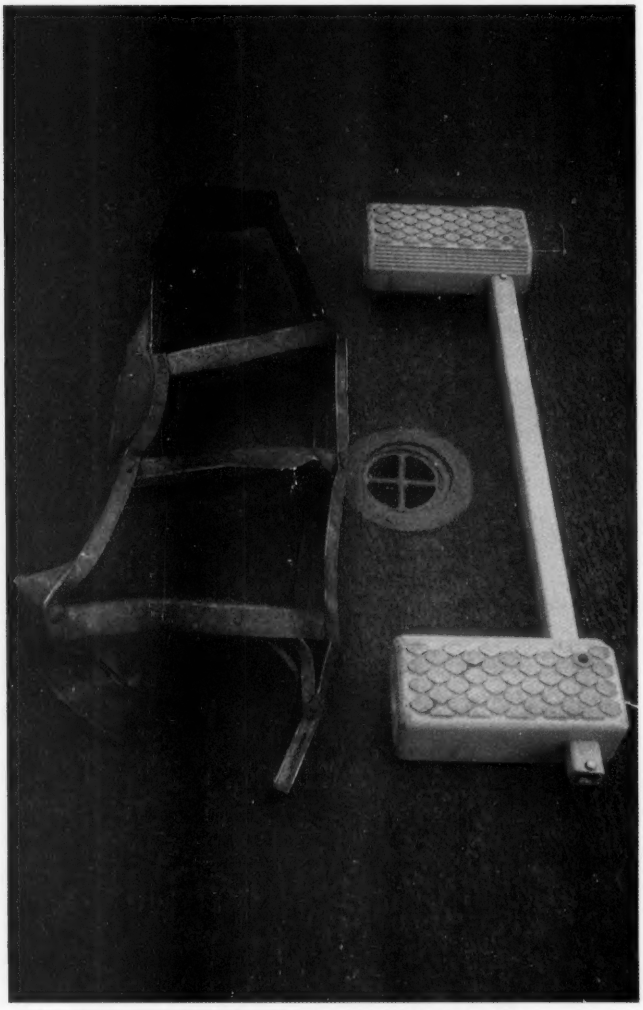
In spite of frequent walkdowns, the FOD beast still rears its head from time to time. We had one such experience after weeks of a very successful deployment.

No, it wasn't a tool left adrift or a loose piece of plastic ingested into an engine. It was a three-foot piece of mangled aluminum ladder ejected from one of the ship's exhaust stacks. We now refer to it as our *vertical launch ladder system* (VLLS).

This FOD had remained hidden inside a ship's exhaust funnel. Fortunately, we weren't at flight quarters, nor did some unsuspecting airman get bonked on the head when this red-hot piece of stepladder launched onto the flight deck. Instead, it fell harmlessly into the safety nets after missing a main rotor blade by inches and was immediately captured.

FOD sources are limited only by your imagination. That's why preventing and detecting FOD is a full time job for everyone aboard. So just when you think you've seen or heard it all, take another look around; you never know where the next piece of FOD might be hiding. And don't forget to put the VLLS in standby before flight ops. ➤

Lt. Collins flies with HSL-48.



"Chief, do you think we need a bigger FOD bag?"

CROSSFEED

Cdr. M.B. Pearsall
Head, Aviation Maintenance and Material Division

AZCS(AW) Dan Steber
Editorial Coordinator

ALSS

Who Gives Egress Checkouts?

by AMEC(AW) L. Beilharz

Are all your AMEs qualified to give egress checkouts? Does "A" school make them qualified? How much on-aircraft experience do those "A" school graduates have? What checklist do you use for egress checkouts? These are a few of the questions you will be asked if someone in your command gets hurt using an egress system. For instance:

An AME3 was searching for cockpit FOD when the seat fired. He had been standing on the seat and facing aft when he was catapulted into the roof of the hangar. He fell onto the starboard wing, bounced against the aircraft and fell to the deck. The AME3 suffered Class C injuries because he wasn't following maintenance SOP, and his PR2 supervisor did not check the AME's procedures. That AME is lucky to be alive.

All AME shops should provide required reading, practical training and a qualification letter for each person who will be giving egress checkouts. This will improve documentation and standardize egress checkout for new people.

Uh, by the way, are you sure all your maintenance department personnel received egress checkouts? How about your MMCO, MCO and ordnance officer?

Chief Beilharz recently reported to the Naval Safety Center as a maintenance analyst for Aviation Life Support Systems. He came from CVW-8, NAS OCEANA.

Your Squadron Title

EGRESS SYSTEM CHECKOUT INSTRUCTOR QUALIFICATION

Name _____ Rate _____ SSN _____

1. The above named individual has undergone the following indoctrination for Egress System Checkout Instructor.
   a. Prerequisites:
      1. Minimum of 60 days in work center 13B.
      2. Completion of required reading.
      3. Satisfactory completion of practical training.

   NOTE: Practical training must be signed off by qualified egress system instructor.

2. Required reading:

	Date	W/C Supervisor Signature
a. OPNAVINST 4790.2E		
Chapter 5 Para 5.27.2.14	_____	_____
Chapter 10 Para 10.1.10.4	_____	_____
b. Egress System Program MI	_____	_____
c. Applicable MRCs	_____	_____
d. Applicable MIMs	_____	_____

3. Practical job training:

	Date	Task Assignment	Qualified Instructor Signature
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____
d.	_____	_____	_____
e.	_____	_____	_____

4. The above listed individual has fulfilled all requirements and is qualified as an Egress System Instructor.

_____ _____

Work Center 13B Supervisor Date

A West Coast squadron uses this sample qualifications sign-off sheet.

HAZMAT

A Heads-Up for Hazmat

by Capt. Kevin G. Emery, USMC

An airman apprentice (AA) was assigned the thankless job of head detail. His supervisor told him to, "Make those urinals shine." He had a bucket, sponge and a phenolic detergent with the disinfectant "MikroBac." Hard-charger that he was, he went straight to work.

Shortly after immersing his bare hand and sponge into the cleaning compound, his hand began to burn. He rinsed it in water for five minutes, then went to medical for more irrigation and evaluation.

After the incident, the AA got the training he should have been given before being assigned to work with hazmat: Where to find and how to read MSDS sheets, labels, and how to use PPE.

When people check into your command, you have to give them hazmat training in accordance with OPNAVINST 5100.23C.

Capt. Emery was head of the power plants branch for maintenance analysis at the Naval Safety Center before he transferred to HMT-303.

LINE

Trash Could Have Trashed a Helo

by AZ2 Donald Doby

My forgetfulness could have cost us an aircraft. The job was simple: hold field day for a CNO visit, stow the gear and dump the trash.

I was on my first Westpac, a member of an SH-60B det, when the CNO's visit was announced. I held field day, stowed the gear, walked out on the empty flight deck and threw the bag of trash into a safety net. My plan was to go down the ladder, retrieve the trash and stow it until it could be dumped.

After I tossed the bag into the net, a plane captain asked me to help bring the helo onto the deck. After that, I went down to my rack; I forgot the trash bag in the nets.

The next morning I noticed one of our helos had launched. I had slept through flight quarters. That's when I remembered the trash bag and ran out to check the nets. It was gone.

I was certain I would be having a one-way conversation with the O-in-C, but after asking around, no one was aware of what had happened. I was, and it bothered me. Fortunately, nothing was broken or FODed because some good-samaritan shipmate had done my job.

My lax attitude could have hurt someone. A careless clean-up man can be just as deadly as a careless wrench turner.

AZ2 Doby is with HSL-43, Detachment 8.

POWER PLANTS

Where's The Nut?

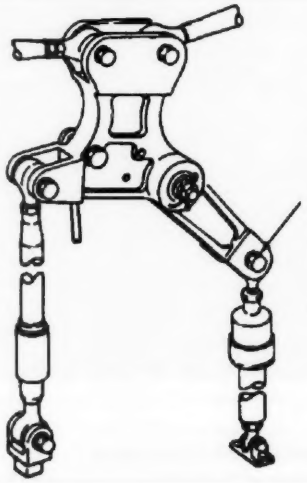
by Capt. Kevin G. Emery, USMC

Mechs replaced an automatic-stabilization-equipment (ASE) system pack (Cadillac unit), and damaged the intercoastal beam in the H-2's cabin overhead with the upper-tunnel control crank. The mechs did not secure the crank correctly after releasing the collective-bungee.

After installing the Cadillac unit, the mechs checked the servos. They disconnected the collective bungee from the upper-tunnel control crank for the check; however, they didn't secure the retaining bolt with a nut.

When they pumped the collective, the retaining bolt backed out of the crank. Pressure on the crank tore a small section of the intercoastal beam in the cabin overhead, aft of the ASE pack.

Similar carelessness has cost lives in the past.



Mechs disconnected the collective bungee from the upper-tunnel control crank to check servos. They didn't secure the retaining bolt with a nut.

Check the Oil, Please

Anonymous

The crew manned the helicopter and started No. 1 engine. They saw only a slight indication of oil pressure, not enough to deactivate the low-oil-pressure caution light. The crew shut down the engine and asked for a troubleshooter, who found the engine oil not simply low — there wasn't any oil. How did this happen?

The bird was having other engine problems, and mechs had removed it to change the fuel-control unit and quickly rehung it when the job was done. This should have been routine for an experienced team. Although the MIMs called for oil servicing, the mechs didn't do it. A total breakdown in our system of maintenance checks and balances began.

The collateral-duty inspector failed to notice the lack of oil and signed off the VIDS/MAF. Mid-check relieved night-check and did the daily and turnaround inspections. No one checked the low oil level. When day-check arrived, they directed a QAR to do the final QA inspection on the engine.

The QAR found several discrepancies, but he didn't check the oil. The functional-checkflight crew checked the engine for connections, safety wire and leaks, but they didn't look at the oil sight gauge either.

This unbelievable chain of events set the stage for what could have been a mishap. Five sets of qualified eyes were responsible for viewing the sight gauge, but they all saw what they expected to see instead of what was there...

The problem occurred because a routine job was undertaken by an experienced crew who didn't check the MIMs.

ORDNANCE

Things That Go Bang During Maintenance

by Ed Luther

Of the 43 accidental detonations reported by aviation commands in July and August 1995, 34 were CADs. Seventeen of the 34 were fire-extinguisher CADs. Maintenance personnel fired 16, ordnancemen fired two. Three mishap narratives follow:

A technician energized the fire-warning system to open the fuel shut-off valves before doing an out-of-phase low-power turn on an FA-18. He didn't realize the fire extinguisher's ready/discharge switch was in the discharge position before selecting the port engine. The bottle discharged.

An ordnance crew was doing a seven-day operational check on an FA-18. They verified stations No. 3 and No. 7 were not armed but didn't check No. 5, an empty station. When they actuated the emergency-release system, two CCU-45/B impulse cartridges in No. 5 fired. Fortunately, there was no damage or injury.

During a safety stand-down, an AME2-QAR conducted FA-18 cockpit refresher and fam training for maintenance personnel. He didn't verify the positions of circuit breakers before applying external power (power-application checklist). When he pressed the left engine's fire-warning light, the fire extinguisher's ready-discharge light/switch lit up. He compounded the mistake when he tried to reset the system by pressing the fire extinguisher's ready-discharge light/switch. The CAD fired.

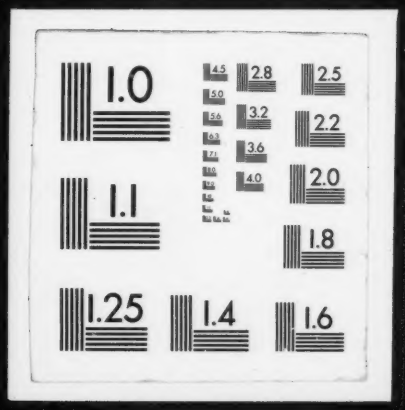
Mr. Luther is weapons-safety specialist at the Naval Safety Center.

July-August Conventional Ordnance Deficiencies

Type	Inadvertent Activation	Malfunction	Fail to Test	Observed Defect	Other	Total
Aviation	43	111	22	106	34	316
Shore	5	0	0	2	7	14
Submarine	0	3	0	0	0	3
Surface	2	23	3	7	4	39
Total	**50**	**137**	**25**	**115**	**45**	**372**

	Losses		Causal Factors			
Type	**Deaths**	**Injuries**	**Personnel**	**Material**	**Design**	**Other**
Aviation	0	3	77	214	2	23
Shore	0	1	12	2	0	0
Submarine	0	0	0	3	0	0
Surface	0	2	4	34	0	1
Total	**0**	**6**	**93**	**253**	**2**	**24**

If a harness...
why not a seatbelt?
Auto or aircraft,
it's not the speed,
it's the sudden stop.
Poster contributed by
LCdr. Bradley N. Mason, VT-6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